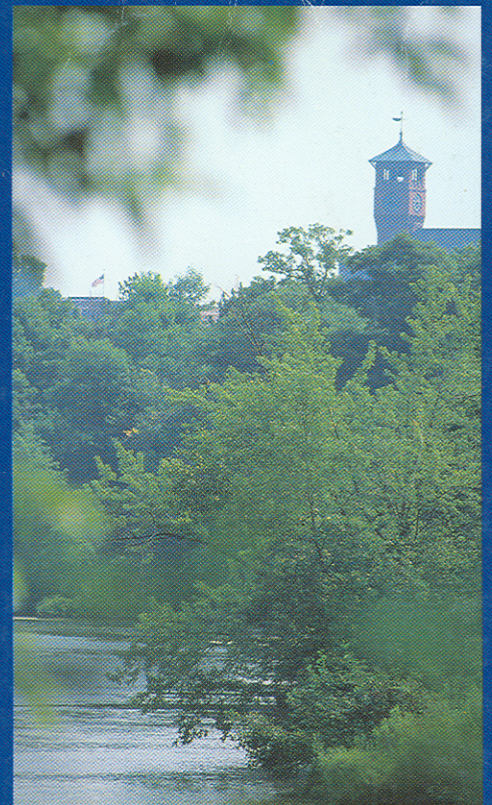
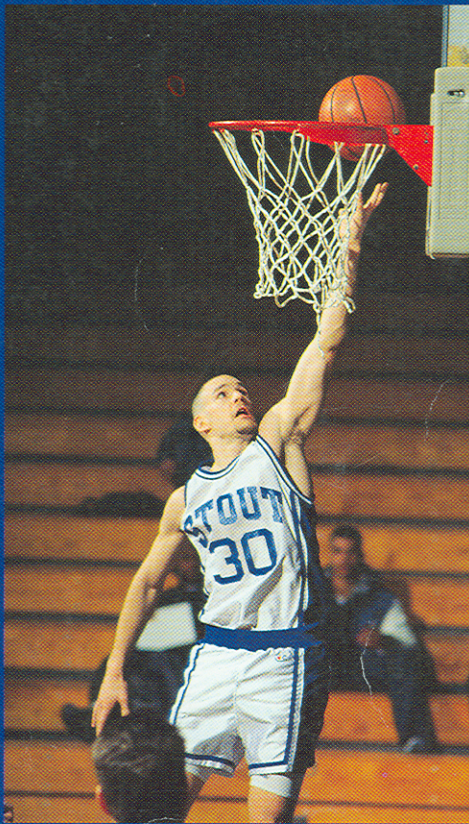
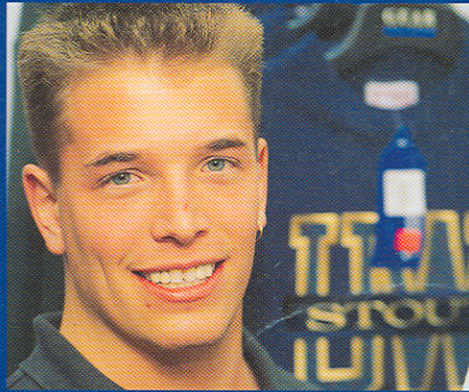
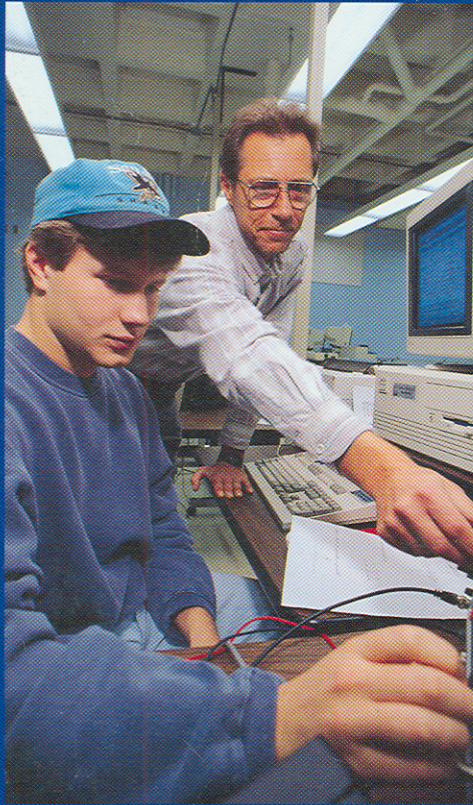


Undergraduate Bulletin

1996-1998



Undergraduate Bulletin



University of Wisconsin-Stout Menomonie, Wisconsin

An Equal Opportunity and Affirmative Action University

North Central Association of Colleges and Secondary Schools

The Undergraduate Bulletin was prepared according to the best information available as of May 1996. All information regarding fees, admission, graduation requirements and course offerings is subject to change. The most current information is available online at:

<http://www.uwstout.edu/ugbull/ugbcontents.html>

For information about the university write to:

Admissions Office

124 Bowman Hall

University of Wisconsin-Stout

Menomonie, WI 54751-0790

or call: **1 800 44 STOUT**

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General Information



THE UNIVERSITY



To Prospective Students

Welcome to UW-Stout! This bulletin describes programs and courses offered by the university. It provides fee, financial aid and housing information. We invite you to visit the campus. Discussions with staff members may help you reach your decision. If possible, write or call for an appointment to visit UW-Stout.

The number is **1 800 44 STOUT**.

UW-Stout

UW-Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1891 by James H. Stout. A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an education broader than that offered by the traditional curriculum. Since its founding, UW-Stout has gained a position of national leadership in its specialized areas. Although UW-Stout is a career-oriented university, the humanities, social and natural sciences are key parts of the total educational program.

UW-Stout's Special Mission

UW-Stout, as a special mission institution, serves a unique role in the University of Wisconsin System. UW-Stout is characterized by a distinctive array of programs leading to professional careers focused on the needs of society. An undergraduate degree in manufacturing engineering, and undergraduate and graduate degrees in the study of technology, applied science, art, industrial management, human behavior, and home economics are presented through an approach to learning which involves integration of theory, practice and experimentation. Extending UW-Stout's mission into the future requires that instruction, research and public service programs be adapted and modified as the needs of society change.

The Faculty and Academic Staff

Because UW-Stout has specialized in certain areas, we have developed a staff of individuals nationally recognized in their fields. All classes are taught by the faculty and academic staff except for a small number of laboratory courses which are taught by highly qualified graduate assistants. The student-teacher ratio is about 20:1. Of a staff of 435, approximately 50 percent hold doctorates or terminal degrees. The faculty's commitment to provide extra help to students is one of UW-Stout's proudest traditions.

Students

In terms of enrollment, UW-Stout is not a local or state school. Its 7,200 students come from more than 30 states in the nation and 29 foreign countries. Students have a major voice in the affairs of the university and sit on important university committees. Besides regular and informal meetings with students, the university's chancellor has "an open door policy." More than \$200,000 in student activity funds are administered by student government. There are more than 100 student clubs and organizations on campus, including national fraternities and sororities.

Facilities

Modern and well-equipped facilities mark UW-Stout's 107-acre campus. We are proud of our laboratory-intensive programs. More than 40 laboratories, encompassing more than 150,000 square feet, are available for study and research in the areas of electronics, power, industrial management, industrial design, industrial graphics, packaging, plastics, metals and woods.

Laboratories are maintained for the study of food science, dietetics, hospitality, tourism, interior decorating, retail merchandising, clothing and textiles design, human development, and family and consumer educational services. Studios and laboratories support programs in art, graphic design, industrial design and interior design. Specialized computer laboratories support the Applied Mathematics program. Historic Harvey Hall houses a 600-seat auditorium, home to Stout's theatre company.

The Stout Vocational Rehabilitation Institute provides research and practicum experience for students in the Vocational Rehabilitation program. Students work with professionals at the institute to provide services for clients referred by state agencies.

Located in the center of the city of Menomonie, adjacent to the downtown business district and Lake Menomin, UW-Stout offers an attractive, convenient and accessible campus setting.

The Community

Located in scenic western Wisconsin, Menomonie has a population of approximately 14,000. The area's natural beauty, with lakes, rivers and hills, provides many year-round recreational and sports opportunities. Major entertainment and cultural activities are available on campus, in the community and in the Twin Cities, about an hour away.

ADMISSIONS

Information for All Applicants

This section provides general information for degree-seeking students. If you wish to take classes for professional or personal development, you need only read the section titled "Special Students."

If you will be taking classes to work toward a degree, you must apply for admission to the university. You can obtain a UW System Application for Admission form by writing the director of Admissions at UW-Stout, or contacting any Wisconsin or Minnesota high school guidance office.

UW-Stout accepts applications as early as September 15 for admission to the following fall term. There is no deadline for applications; however, we are limited in the number of students we can accept. The university asks you to declare a major on the application form. When a program is full, we cannot admit more students to that major. Some majors are filled as early as 10 months in advance of the fall semester.

Keep in mind that you may also have to meet entry standards set by a college or department. See the sections on the individual programs (pages 24-74) for more information.

If you do not meet the standards for admission, you may be placed on a waiting list and will be considered for admission only if space is available in your chosen major. You will be notified no later than May 1 if you have been admitted. If you do not qualify for admission, you may appeal for special consideration through the director of Admissions.

UW-Stout will keep you informed of pertinent changes at the university. If you have the chance to study part time elsewhere, you will be able to check the transferability of your course work to UW-Stout by contacting the university's Admissions Office.

Notice: You must provide the university with accurate information about your personal and educational history. UW-Stout's policy is that students who intentionally falsify or omit information given as part of their university record will be suspended.

Admission Categories

Admission procedures and standards vary somewhat from group to group. Following is a definition of each category. Find the category that applies to you, then find the section for that category (pages 4-6) for information on what you will need in order to be admitted to UW-Stout.

Freshmen: graduates of high schools in the United States and those who will be graduating, who have not attended another university or technical school.

UW System transfer students: applicants who have attended another university in the UW System and wish to transfer to UW-Stout.

Technical college transfer students: applicants who have attended a vocational, technical or adult school and wish to transfer to UW-Stout.

Other transfer students: students who have attended a university outside the UW System and wish to transfer to UW-Stout.

Re-entry students: students who have attended UW-Stout in the past and wish to again take classes at the university.

Non-traditional students: persons 21 or older who do not otherwise qualify for admission.

Special students: students who wish to further their education, but are not seeking a degree from UW-Stout.

Post-secondary educational option students: high school students who wish to take university courses under the Post-secondary Educational Option program (PSEO). Students must apply both through their high school and UW-Stout for permission to enroll.

International students: students from countries other than the United States, who wish to attend UW-Stout.

Auditing Classes

If you are not concerned about receiving college credit for courses you take, you may audit classes. Wisconsin residents may audit classes for 30 percent of the normal per credit academic fee. The cost for nonresidents is 50 percent of the normal fee.

You may audit classes provided that you apply for admission; the class teacher approves your request to audit the class; you pay any special costs for course instruction other than the normal tuition; and the university will not be required to provide additional classroom or laboratory space for you, and will not realize increased instructional costs.

You will receive only provisional permission to attend classes until course registration is completed. You may not change your admission status and take the course for credit once the class has started. You will be subject to Regent, university and student government regulations, just like students who are taking courses for credit.

Note: As with all students attending the university, special students and auditors must provide UW-Stout with accurate information about their personal and educational history. The university policy is that students who intentionally falsify or omit information given as part of their university record will be suspended.

Freshmen:

1. You must be a graduate from a recognized high school or equivalent. If you are not a high school graduate, please refer to the section headed "Non-Traditional Students."
2. You must have a minimum of 17 high school college preparatory credits with the following distribution:
 - four credits of English (*may include speech*)
 - three credits of mathematics (*Algebra I and higher*)
 - three credits of science
 - three credits of social science
 - two credits from the above areas, or foreign language
 - two credits from the above areas, or fine arts, computer science and other academic or vocational areas.
3. You must provide evidence that you are prepared to do satisfactory work. UW-Stout requires that you graduate in the top 50 percent of your class, or have a cumulative score of 22 or better on the American College Test (ACT) or a combined verbal and mathematics score of 1000 on the Scholastic Aptitude Test (SAT).

The university provides special consideration for applicants who have served at least 180 days of active military duty, are at least two years out of high school, or have been disadvantaged as a result of substandard education, family income level, or ethnic background.

4. All freshmen must take the ACT; however, the test is not the only criterion for admission. Applicants who are not residents of Wisconsin may submit SAT scores. The admission test requirement may be waived if you have been out of high school for two or more years, are age 21 or older, or are an international student.
5. **Manufacturing Engineering Applicants** Applicants to the Manufacturing Engineering program must meet the criteria above, *plus* rank in the upper 40 percent of their high school class, and have an ACT mathematics score of 22. Applicants who are *not* in the top 40 percent of their high school class must have a mathematics score of 22 and a composite score of 22 on the ACT. Applicants are required to have an SAT mathematics score of 500 or higher.

UW System Transfer Students

1. The university will need an official transcript from each post-secondary institution you have attended. Applications and transcripts may be submitted as early as September for admission the following fall, and early March for the following spring semester. Apply early so you can register for classes and complete the financial aid application process. UW-Stout enrollments are limited, so it's important that you plan and apply early.
2. You must have a cumulative grade point average of at least 2.00.
3. If you have fewer than 30 transferable credits and less than a 2.00 cumulative grade point average, you are still admissible to UW-Stout if you would have been admissible as a new freshman, or if you would have been eligible to continue at UW-Stout had you achieved your existing academic record here. You will be placed on a waiting list and admitted on probation if space is available. You will be notified no later than May 1.
4. UW-Stout has a joint admission policy with the UW System center campuses. If you choose to participate in this program, you are guaranteed admission to UW-Stout, provided you meet the provisions of the policy.

Center system counselors can help you select course work that will relate to your planned major at UW-Stout. Under UW System policy, you may transfer up to half the number of credits required for graduation in your major at UW-Stout.

Technical College Transfer Students

1. If you are transferring from a technical college, UW-Stout will accept credits you have earned from Wisconsin technical college parallel programs, and similar programs from other states.
2. UW-Stout may accept up to 15 general education credits from non-college parallel two-year associate degree programs at Wisconsin technical colleges. The transfer credits must be approved by the university's Office of Academic Affairs.
3. UW-Stout has identified many associate degree programs that are not college parallel, but follow a professional development pattern similar to programs at the university. If you're transferring from such a program, UW-Stout may accept some of your technical credits. The UW System Office of Academic Affairs decides what credits will transfer.
4. Credit earned from institutions which are fully accredited, or candidates for accreditation, are fully transferable. Credits from institutions accredited by a professional accrediting association may transfer in the specialty of accreditation if recommended by the appropriate academic department.

Other Transfer Students

1. Because the enrollment is limited, the university may give preference to students transferring from UW System institutions, up to the limit of our enrollment targets.
2. The required grade point average is the only difference in policy for transfer students from institutions outside the UW System. You must have a cumulative grade point average of at least 2.20 (on a 4.00 scale) at the institution you most recently attended.
3. If your cumulative grade point average is above 2.00 but lower than 2.20, you will be put on a waiting list and offered admission at a later date if space permits. You will be notified no later than May 1.
4. Credit earned from institutions that are fully accredited, or candidates for accreditation, are fully transferable. If you are transferring from an institution accredited by a professional accrediting association, the academic department you are entering will determine if credits in a specialty area will apply to your major.

Re-entry Students

There are two types of re-entry students: **Regular re-entry students** are those who have completed no transferable credits from any post-secondary institution since they last attended UW-Stout. **Transfer re-entry students** are those who have completed transferable credits at a post-secondary institution since they last attended UW-Stout.

Regular re-entry students:

1. You need to complete the UW System Application for Admission form and return it to the Admissions Office. If you left the university in good standing, you will be immediately readmitted to the university in the program that you left, or as undeclared, as enrollment management goals allow.
2. If you left on academic probation, you will be readmitted on academic probation, if there is room for you in your chosen program.
3. The director of Admissions or a designee will review applications from re-entry students who were academically dismissed from the university. If the application for readmission is denied, the decision may be appealed to the University Committee on Admissions and Credits.

Transfer re-entry students:

1. You must submit official transcripts from each institution you attended, as well as a completed UW System Application for Admission form. If you left the university in good standing or on probation, you will be readmitted in the same status, provided you are eligible to return to the institution you last attended, and provided enrollment management goals have not been reached.
2. If you left UW-Stout because of academic dismissal, but earned a grade point average of 2.00 or better at your most recent school, you may be readmitted on probation, at the discretion of the director of Admissions or a designee.
3. If your grade point average is less than 2.00, you will be denied readmittance to UW-Stout. You may appeal that decision to the University Committee on Admissions and Credits.

Non-traditional Students

Persons age 21 and older may be admitted to the university even though they have not completed high school. Applicants in this category must provide evidence of their ability to begin college work. ACT scores are not required. Non-traditional students who may be admitted include:

1. Applicants with a GED examination score showing high school equivalency.
2. Applicants with a 2.00 cumulative grade point average for a minimum of 12 credits taken as a "special student" (see that category for more information).
3. Applicants who meet institutional standards in preparatory courses taken at a technical college may be admitted.
4. An applicant who has the recommendation of a high school counselor or other person with an appropriate academic background who has had an opportunity to evaluate the applicant's ability, and can explain why the applicant has a reasonable probability of success despite failure to meet the standard criteria; and a positive assessment of the student's ability to succeed at UW-Stout by the director of Admissions.
5. Older non-traditional applicants who have demonstrated a significant increase in maturity based on life experience in the judgment of the director of Admissions, based on information presented by the applicant.
6. Veterans with at least 180 days of active duty.
7. Those who have been admitted to a program to assist qualified applicants who are educationally disadvantaged due to physical or clinically diagnosed learning disability.
8. Those admitted to programs to assist people who are educationally disadvantaged as a result of substandard education, family income level or ethnic background.
9. Those admitted to programs designed to assist people who are incarcerated.
10. Admitted for reasons not specified in the choices above, at the discretion of the director of Admissions.

Special Students

This diverse group of students may include midcareer professionals seeking certification for a changing technology, community members seeking courses for personal fulfillment, high school students taking classes not offered at a high school, guests and auditors.

1. To be admitted as a special student, simply indicate that status on the application for admission. You do not need to indicate a major, submit transcripts, take the ACT, or pay the application fee. High school students admitted as special students must gain the approval of their parents and their high school.
2. As a special student, you must take the English and math placement tests before enrolling in an English or math course.
3. You are not eligible for financial aid.
4. You are limited to six credits each semester (*exceptions must be approved by the Office of Advisement*).
5. You may request to change your status to degree-seeking student after you have completed 12 credits. You may accumulate a maximum of 29 credits as a special student.
6. If you decide to change your status and become a degree-seeking student, you will have to complete the application process required of new students—submit transcripts, pay the application fee, complete a change of major form, and submit ACT scores.
7. High school students who wish to take classes at the university must rank in the top 50 percent of their high school class or have an ACT composite score of 22 or higher.

Post-Secondary Educational Option Program

The Post-Secondary Educational Option (PSEO) program serves high school students who wish to take classes not offered at a high school.

1. To be admitted as a PSEO student, simply indicate that status on the application for admission. You do not need to indicate a major, submit transcripts, take the ACT or pay the application fee. You must gain the approval of your parents and your high school.
2. You must take the English and math placement tests before enrolling in an English or math course.
3. You are not eligible for financial aid.
4. You must rank in the top 50 percent of your high school class or have an ACT composite score of 22 or higher.

International Students

1. All potential international students should have better than average academic records.
2. All applicants must present the university with official copies of their academic record.

First-year students must send certified copies of certificates, diplomas or degrees earned. These official records must be equal to a United States high school (*secondary school*) graduation for consideration.

Transfer students must submit certified records of their post-secondary academic work. The records must show the courses the students have taken and the grades they have earned. The university will not grant credit for courses unless there is evidence that the students have satisfactorily completed them.

Credit may be granted to international students if the institution they attended is listed in either the International Handbook of Universities or the Commonwealth Universities Handbook. Credit from institutions not listed in these publications may be transferred only upon the recommendation of the appropriate department.

3. The university will deny admission to students who submit records with any alterations or irregularities.
4. Additional records presented after the student has enrolled will not be considered for transfer.
5. Students from non-English speaking countries are required to take the Test of English as a Foreign Language (TOEFL). Applicants will need a minimum score of 500 to enroll in full-time study. Students with a TOEFL score of less than 500 will be required to enroll in English as Second Language (ESL) courses at UW-Stout or elsewhere to gain the competency needed before enrolling full time.

For information on taking the TOEFL, write to:

Test of English as a Foreign Language
Box 899
Princeton, New Jersey, USA 08540

The TOEFL will be waived if students have completed an ESL program from an accredited college or university or other program approved by UW-Stout.

6. All international students must show evidence that they have adequate finances to undertake a degree program at UW-Stout.

As a condition of admission, international students whose sponsors have a history of delinquency in payment of fees must place on deposit an amount approximately equal to the institution's non-resident tuition and fees for a 12-month period, which includes two semesters and an eight-week summer term. Applicants who must meet this requirement will be notified when the university receives their applications.

Questions about this policy may be addressed to the Office of Student Business Services or to the Office of International Programs.

SCHOLASTIC STANDARDS

Student Handbook

Each year, we update the *Student Handbook* and make it available to each student. The handbook contains helpful information related to academic standards and campus policies, campus programs, rules and regulations, activities, organizations, and services. It is an official document of the university and contains many of the details not found in this bulletin. All students are subject to the rules and standards as they are presented in the handbook.

Semester Credit

UW-Stout expresses credit in semester hours. One credit represents the satisfactory completion of the work of one meeting a week for a period of one semester. A course having five meetings a week will usually give five semester hours of credit. In order to receive a degree, you must not only gain the required number of credits in the program you are pursuing, but also must attain a certain standard of scholarship. (See also "Suspension and Probation.")

Credit by Examination

You may be able to receive credit by demonstrating your competence through examination. External examinations include the College Level Examination Program (CLEP) and the Proficiency Examination Program (PEP). For further information on external examinations, contact the University Counseling Center.

You may also receive credit through the "test out" procedures developed by various university academic departments. For more information, contact the appropriate school or department office.

If you test out of a course, you will be charged a testing fee.

Credit Registration and Overload Policy

A normal semester credit load is 16 or 17 credits. Register only for those classes you intend to complete. Do not register for classes which conflict with other class(es).

Undergraduate students, with the exception of graduating seniors, will be restricted to 16 credits during the early registration. Once registration is completed, students may add credits up to a maximum of 20 during the add/drop period. A fee will be charged for any credits beyond 18.

You may seek a waiver of the 20-credit limit by appealing to your program director. If the program director approves an overload permit, you must file it in the Registration and Records Office.

During summer session, you may enroll for a maximum of one credit per week. Again, if you want to seek a waiver to the credit limit, contact your program director.

Retroactive Credit for Foreign Language

Students who earn a grade of "B" (3.0) or better in foreign language courses would also receive credit for the lower level foreign language course or courses associated with that course.

Math and English Placement

Remedial Placement Students who are not transferring credits in math or English must take the regional math and English placement tests. These are given around the state during the spring semester. Make-up tests are given in the summer at announced times. Students who place into remedial math or English must successfully complete the course by the end of 30 credits or they will not be permitted to register.

English Placement Students who perform well on the placement tests may be placed in an advanced English class (326-111 *Freshman English—Honors*). Students who receive a grade of "B" (3.0) or better in the class can elect to take any additional writing course to satisfy the six-credit requirement and not just those listed under the general education category.

Advanced Placement UW-Stout grants credit for scores of three or greater on the College Board Advanced Placement test. In addition, students can receive credit for a specific course. For more information about advanced placement examinations, call the Office of Admissions at 715/232-1411.

Add/Drop Policy

Even with careful planning, you may find you have to add or drop a class after the semester begins. To comply with accreditation and financial aid regulations, UW-Stout has a published add/drop policy.

The following serves as UW-Stout's procedures for adding or dropping classes within the guidelines of the policy:

Students are expected to complete courses for which they register. Students who wish to adjust their class schedules may add or drop classes before the end of the second week of semester classes and before the end of the first week of quarter classes. Drops made during the first two weeks of a semester course or the first week of a quarter course will not appear on a student's transcript. If students deem it necessary to reduce their program after the normal (two week) add/drop period, they should do so as early as possible. A mark of "WS" or "WU" is given by the instructor and recorded on the student transcript for a course dropped after the add-period of a semester or quarter course but before the midterm date. After the midterm date, any withdrawal from a course is recorded as an "F." If extenuating circumstances warrant other consideration, an appeal may be made to the instructor of the course. Students who register for a course but do not attend the class and do not officially withdraw are given a mark of "F." Students who do not attend the first class meeting of a course, or who do not notify the instructor or department chairperson that they will be absent for special reasons, may at the instructor's option, be dropped from the course if, and only if, other students are waiting to enroll at that time. Students should consult the current term "timetable" for the official drop dates.

Grade Point and Symbols

Grade	Grade Points
A	= 4.00
A-	= 3.67
B+	= 3.33
B	= 3.00
B-	= 2.67
C+	= 2.33
C	= 2.00
C-	= 1.67
D+	= 1.33
D	= 1.00
D-	= 0.67
F	= 0.00
O	= Outstanding (<i>no grade points</i>)
S	= Satisfactory (<i>no grade points</i>)
U	= Unsatisfactory (<i>no grade points</i>)
W	= Withdrawal from school before midterm or grade assigned by registrar for an improper drop
I	= Incomplete
CR	= Credit (<i>no grade points</i>)
F	= Fail
IP	= In Progress (<i>approved courses only</i>)
AU	= Audit – no credit awarded
NC	= No Credit
WS	= Withdrawal – Satisfactory Work
WU	= Withdrawal – Unsatisfactory Work

Accommodating Religious Beliefs

UW-Stout honors individuals' religious beliefs. If scheduling of tests or other mandatory activities interferes with students' religious observances, students may request alternative arrangements.

Within the first three weeks of class, students must notify their instructors if there will be days or dates when their religious activities will prevent them from participating in academic events. For summer sessions or short courses, students must notify their instructors within the first week of class.

The university accepts, at face value, the sincerity of students' religious beliefs. Information students provide about their religion will be kept confidential.

Once instructors know of students' needs, they will be able to schedule make-up examinations or other course requirements, before or after the regularly scheduled examination or other requirement.

If students believe their religious beliefs have not been accommodated, they may file a grievance. For more information about the policy or the grievance procedure, contact the Dean of Students Office at extension 1181.

Procedure for Withdrawal from UW-Stout

Withdrawal should be undertaken only after serious consideration. If you intend to withdraw from the university, you must schedule an exit interview with the Advisement Assistance Center and complete a withdrawal form. If you fail to withdraw officially from the university, you will receive a grade of "F" in all your courses. Withdrawals after the midpoint of a term or course will generally result in "F" grades. (*See grading policy in Student Handbook.*)

Suspension and Probation

Grade point requirements for graduation vary by major. Minimum acceptable standards for retention are defined as follows:

1. First semester freshmen students will be placed on probation if they achieve a grade point average less than 1.8 at the end of the semester. They will be suspended if their grade point average is less than 1.0 for the semester.
2. Second semester freshmen will be placed on academic probation if their cumulative grade point average at the end of the semester is less than 1.9. They will be suspended if their grade point average is less than 1.0 for the semester.
3. Second semester sophomores or upper division students will be placed on academic probation if their cumulative grade point average at the end of the semester is less than 2.0. They will be suspended if their grade point average is less than 1.0 for the semester.
4. Students with two consecutive terms of probationary-level work will be dismissed unless they have a semester grade point average of 2.5 or better.

A student who has been declared academically ineligible to continue may request a hearing to appeal.

Requirements for Graduation

The semester credit hours required for graduation are stated under the program of study for each major. You are responsible for knowing and meeting the requirements for graduation. To fill the minimum residence requirement, you must earn the last 32 semester hours of credit (64 grade points) in residence at UW-Stout. One semester before graduation, you must file an Application for Degree card with the Registration and Records Office.

Graduation with Honors

In each graduating class, the selection of students for honors is based upon scholarship. Upon completion of a student's undergraduate work, a minimum cumulative grade point average of 3.2 in 60 or more credits must have been earned. The designations Cum Laude (3.2 – 3.499), Magna Cum Laude (3.5 – 3.799) and Summa Cum Laude (3.8 – 4.0) are used. For commencement purposes, the cumulative grade point average earned at the end of the semester preceding the commencement ceremony will determine recognition at the commencement ceremony. However, honors will be officially determined at the time of final graduation checkout. A transfer student who has from 32 to 59.5 credits earned at UW-Stout will be considered for honors if the student's prior school(s) records met or exceeded the appropriate standard. Honors will be listed on the student's transcript and will appear on the diploma.

Chancellor's Award

The Chancellor's Award recognizes undergraduate students who receive a semester grade point average of 3.5 or above on 12 or more credits. A special Four Star Recognition Award will be given to students who attain a 4.0 average.

FINANCIAL INFORMATION

Fee Payment

You are expected to pay all fees according to the procedure outlined in the Student Handbook. Failure to pay fees may result in suspension. UW-Stout offers an opportunity to pay fees in installments. This program requires a down payment plus any past due amount or total payment at registration, whichever is less. The balance is due in additional monthly installments.

Semester Costs

Undergraduate fees are set by the University of Wisconsin Board of Regents and are subject to change. Semester fees for undergraduate students registered for 12 or more credits in 1995-96 were:

Resident	\$1,230.29
Minnesota Resident	\$1,358.79
Non-resident	\$3,797.79

These fees incorporate the usual student costs such as textbook rental, Student Center, student activity and health fees. However, the schedule does not include lab or material fees charged in some courses. All undergraduate students who enroll for more than 18 credits will be assessed a per credit fee for those credits.

Since we must prepare this bulletin far in advance, all tuition and fees, room and food rates, and other charges are subject to change without notice. Additional changes to the tuition and fee schedule are anticipated for 1996-97.

Minnesota Students

If you are a Minnesota resident and a new student at UW-Stout, you must submit a reciprocity application to Minnesota. Approval takes up to four (4) weeks. If approved for reciprocity, you will be charged at the Minnesota resident tuition rate. Applications are available at the Financial Aid Office and the Office of Student Business Services. The State of Minnesota has indicated that "reciprocity benefits will not be granted retroactively" and that "each student is responsible for the application process." Therefore, each new student must complete and mail a correct, signed and notarized application before the last day of the semester. Apply early to avoid complications. Students that have been in attendance at UW-Stout and have earned credits during the previous academic year will automatically have reciprocity renewed by the State of Minnesota.

Students Auditing Classes

Wisconsin residents may audit classes for 30 percent of the normal per credit academic fee. The cost for non-residents is 50 percent of the normal non-resident fee.

Refund on Fees

Withdrawal from semester courses generates refunds based on the following schedule: first and second week of classes, 100 percent; third and fourth week, 50 percent. After the fourth week, no refunds will be made. Refunds for room and food service charges are based on the date of withdrawal.

Graduation Fee

When you complete 110 semester hours of credit, you will be billed \$30 for the graduation fee. This fee pays for the diploma cover and other costs and accessories that go with the commencement exercises. It does not cover the cost of the cap and gown. You will be assessed this fee whether or not you attend commencement exercises.

Unpaid Obligations

Failure to meet financial obligations is a serious matter. Therefore, if you owe money to the university and fail to meet that obligation, UW-Stout may suspend you. A hold will be placed on your account and you will not be allowed to register or receive transcripts until your delinquent accounts are brought up-to-date. This includes such items as library fines, assessments for damages in laboratories and residence halls, as well as tuition and fees. Collection costs will be assessed on any unpaid charges owed to the university.

Financial Aid

Financial aid provides assistance to financially needy students, who without such aid, would be unable to attend college.

The philosophy for all need-based financial aid programs is that students and their families are primarily responsible for financing their education. Families applying for financial aid need to fill out a financial statement listing their income, assets and liabilities. Established federal and state formulas are used to determine a reasonable contribution from the student and family. State and federal financial aid is intended to meet education costs above that reasonable contribution.

Financial aid must be applied for annually. Financial assistance is awarded for the entire academic year. If you apply, you will be considered for all types of aid, including grants, work and loans.

Financial aid awards are based on full-time status, 12 credits or more. You must consult with the Financial Aid Office if you are planning to carry less than a full-time credit load, as an adjustment will have to be made in the aid award.

We encourage applicants to submit financial statements by April 1 of each year. Applications received after that date are processed on a first come, first served basis. Award notifications for the next academic year are sent in late spring to early summer to students with completed applications.

Financial aid counselors are available for consultation. Stop at the Financial Aid Office, 210 Bowman Hall, if planning to visit the campus. Please call 715/232-1363 or write for an appointment.

Withdrawal Fee

You will be charged a fee of \$50 for a first-week withdrawal, and \$100 for any withdrawal during the second week. See *Student Handbook*.

Financial Aid Replacement and Refund Policy

Students on financial aid will not receive refunds until funds representing financial aid awards have been applied back to the respective financial aid programs. Be sure to check with Student Business Services to verify the impact of withdrawing and your responsibility for repayment of Financial Aid. See *Student Handbook*.

UNDERGRADUATE SCHOLARSHIPS

Merit-Based Freshman Scholarships

More than \$100,000 is awarded annually to outstanding high school seniors through merit-based freshman scholarships. All entering freshmen are considered for these scholarships. Selection is based solely on academic merit without regard for financial need. Recipients are notified shortly after acceptance to UW-Stout.

Scholarship: Wisconsin Academic Excellence Scholarship

Award: Tuition and Fees

Criteria: Selected by high school

Scholarship: National Merit Finalist

Award: \$2,000

Criteria: Automatically awarded to NMSQT Finalist

Scholarship: National Merit Semifinalist

Award: \$1,000

Criteria: Automatically awarded to NMSQT Semifinalist

Scholarship: Chancellor's Academic Honor Scholarship

Award: \$1,000

Criteria: Automatically awarded to the top 10 percent class rank

Merit-based scholarships are not cumulative. Students who qualify for more than one scholarship will be awarded the scholarship of highest value.

Stout University Foundation Scholarships

The Stout University Foundation awards more than \$100,000 in scholarships for undergraduate and graduate students at UW-Stout. These scholarships are financed by the contributions of alumni, friends, parents, faculty, campus organizations, other UW-Stout staff, foundations and corporations.

No single factor will be responsible for an applicant receiving a scholarship. Factors which are considered include academic performance, teacher evaluation and comments, professional activities, extra-curricular activities, community involvement, written statements, neatness and care in completing the application, and, in many cases, financial need.

Scholarship application forms are available from the Stout University Foundation, Louis Smith Tainter House, or from the Office of School Relations, 130 Bowman Hall, beginning December 1. Completed application forms must be submitted to the Stout University Foundation by March 1.

The Scholarship Committee reviews applications and makes awards in the spring. Recipients are notified in May. Recipients are required to write a letter of appreciation to the scholarship donors before payment is made for tuition. A formal reception honors scholarship winners, donors, friends and family the first week of the fall semester.

For additional information about scholarships, contact the Stout University Foundation, Louis Smith Tainter House, 715/232-1256.

Other Scholarship Opportunities

By investing a little time and energy, you can conduct your own scholarship search.

Scholarships are often provided by community agencies, corporations, clubs, cultural groups, foundations, churches and civic groups. While many are not based on financial need, you will usually have to meet some criteria to qualify for funding—academic achievement, community activities, leadership, ethnic or racial heritage, athletic ability, or other guidelines.

High school guidance counselors can supply a list of some of the scholarships available in your region. Reference librarians may also be able to help you identify sources. But there are other possible sources of funding for your education:

- Find out if your parents' employers, professional organizations or labor unions offer scholarships.
- Contact regional civic organizations and ask about scholarships. The Chamber of Commerce, Rotary Club, Lions Club or other groups may have scholarship funds available.
- Go to the library and review books that list financial aid sources.
- Contact groups in your community, including churches, veterans, industries and major businesses.
- Look for notices of educational funding opportunities in your newspaper or on bulletin boards. Check on radio or television.
- Check with your program director or the dean's office for the school your degree program is housed in for private scholarship information.
- Contact the national office of your student professional organization for scholarship opportunities.

Not all scholarships are for large amounts of money, but any scholarship can help offset the cost of an education.

SERVICES FOR STUDENTS

Activities

You may choose from more than 100 student organizations and activities on campus, in areas as diverse as music, drama, journalism, religion, politics and recreation. Fraternities and sororities help students continually develop their interests. The university also has a complete recreation and intramural program for men and women.

Academic

Academic Honor Society
American Design and Drafting Association
American Foundryman Society
American Hotel and Motel Association
American Industrial Hygiene Association
American Marketing Association
American Production and Inventory Control Society (APICS)
American Society of Interior Designers
American Society for Quality Control
Apparel, Textile, and Design Association
Applied Mathematics Club
Club Managers Association of America
Council for Exceptional Children
DECA
Epsilon Pi Tau
Fine Arts Association
Graduate Student Council
Graphic Design Association
Home Economics in Business Club
Hospitality Sales and Marketing Association
Hotel Motel Management Association
Industrial Distribution Club
Industrial Designers Society of America
Institute of Packaging Professionals
International Business Club
International Food Service Executive Association
Menominee Association for the Education of Young Children
National Art Education Association
Nutrition and Foods Association
Phi Upsilon Omicron
Psi Chi
Psychology Club
Resort and Property Management Association (RPMA)
Restaurant/Tavern Management Assoc.
Retail Directions
Sigma Lambda Chi
Society for Hospitality Industry Professionals (SHIP)
Society for Human Resource Management Association (SHRM)
Society of Manufacturing Engineers
Stout Construction Association
Stout Council on Family Relations
Stout Home Economics Association
Stout Association for Family/Consumer Ed.
Stout Information Technology Association
Stout Technical Association of the Graphic Arts (TAGA)
Stout Typographical Society
Stout Vocational Rehabilitation Club
Technology Education Collegiate Association (TECA)
Wisconsin Education Association
Women in Engineering
Women in Management

Greeks

Alpha Phi International Sorority
Chi Lambda Fraternity
Delta Zeta International Sorority
Gamma Sigma Sigma Service Sorority
Inter Fraternal Council
Inter Greek Council
Kappa Lambda Beta
National Panhellenic Council
Phi Omega Beta Fraternity
Phi Sigma Phi National Fraternity
Phi Sigma Sigma Sorority
Sigma Sigma Sigma Sorority
Sigma Tau Gamma Fraternity

Recreation and Sport Clubs

Aikido Yoshi Kai Club
Alfresco Outing Club
Archer's Club
Bowling Club
Stout Bicycle Club
Hockey Club
Hockey Cheerleaders
Ironworks
Martial Arts Club
Ski Club
Women's Soccer Club
Men's Soccer Club
Recreation Commission
Stout Sailing Club/Menomin Jammers
Ultimate Frisbee Club
Volleyball Club-Men

Special Interest

Amnesty International
Automobile Club
Baha'i Campus Club
Black Student Union
Chinese Student Association
Collegiate 4-H
Family Weekend Committee
(Inter-Residence Hall Association)
FYE (For Your Entertainment)
Greensense
Habitat for Humanity
Hmong Stout Student Organization
International Relations Club
Kinship
Los Hispanos
Organization of Adult Students
Involved at Stout (OAS/S)
Safewalk
Single Parent Foundation
Students Participation in Representing Indian Tribes at Stout (SPIRITS)
Stout AIDS Commission
Ten Percent Society
Veterans Club

Religious
Campus Crusade for Christ
Chi Alpha Christians in Action
InterVarsity Christian Fellowship
The Ministry
United Ministries in Higher Education-Stout
Wisconsin Evangelical Lutheran Synod (WELS) Lutheran Campus Ministry

Residence Halls

Antrim-Froggatt Residence Hall Association
CKTO Hall Association
Fleming Hall Association
HKMC Residence Hall Association
Hovild Hall Residence Association
JTC Hall Association
North Hall Association
South Hall Association
Wigen Hall Council

Communication

Campus Music Productions
Power 100 (WVSS)
Prometheus Creative Arts Journal
The Stoutonia

Government

College Democrats
College Republicans
Inter-Residence Hall Association
Stout Student Association

Athletics

The intercollegiate athletic program emphasizes educational values for the participants and provides a laboratory for students in the coaching certification program. UW-Stout is a member of the Wisconsin State University Conference, the Wisconsin Women's Intercollegiate Athletic Conference, and the National Collegiate Athletic Association-Division III. The university sponsors eight women's and seven men's varsity teams. Women's teams include basketball, cross country, gymnastics, soccer, softball, tennis, track and field, and volleyball. Men's teams are baseball, basketball, cross country, football, hockey, track and field, and wrestling.

Education and User Services

Education and User Services, a unit of Technology and Information Services, provides computer hardware and software for student use.

Resources include approximately 200 Macintosh and IBM-compatible personal computers with a variety of software in the Campus Computing Laboratory (CCL), located in 184 Micheels Hall. The software supports instructional use in other laboratories and classrooms across the campus. The CCL is generally open 7:30 a.m. to 11:00 p.m. with extended hours late in semesters. The CCL provides workshops early in the semester for students who want to learn how to use the computers and software.

Access is also provided to the Internet, library resources and electronic mail. Use of the computers is free, but there is a minimal charge for printing in the CCL. Students with their own personal computers and modems can take advantage of dial-up access to campus computing resources.

Education and User Services also provides statistical analysis for students' research studies.

English Language Institute

The English Language Institute provides instruction in English for people who do not speak English as their native language. Students receive 20 hours per week of language instruction. In as little as a year, students can achieve a level of proficiency that would allow them to attend the university.

The English Language Institute has a professional teaching staff, and manages its own recruitment and student services. It is funded by fees students pay to attend the Institute.

International Student Services

The Office of International Student Services works with students from 35 countries. The office staff provides counseling, advisement and referrals for all foreign nationals at the university in such areas as housing, finances, academics, social customs and personal concerns. The office also provides a link between the international students and the greater area community, facilitating cultural awareness and understanding.

Instructional Technology Services

Instructional Technology Services is housed in the Communications Center. Professional media specialists provide staff and students with consultation in areas of instructional development, media design, utilization, media equipment and facilities. ITS produces materials in various formats including multimedia, still photography, graphics, instructional television and audio recording.

Library Learning Center

The Library Learning Center has a collection of more than a million items, including audiovisual items, periodicals and books. The computerized access system allows rapid searching for information, both in the library and at stations on and off campus.

The library houses in-depth collections in UW-Stout's major fields of study, and wide electronic access to information databases. Workstations are available to access the Internet, World Wide Web and other databases. Friendly and knowledgeable library information specialists are available to assist users in their quest for information.

The library also houses two computing laboratories equipped with microcomputers, hard-disk servers, printers, and terminals connected to time-sharing computers. The library is open 95 hours per week with adjusted open hours in the summer and at times when no classes are offered.

Memorial Student Center

The Memorial Student Center is a "community center" for members of the UW-Stout community—students, faculty, staff, administration, alumni and guests. It is a place to get to know and understand one another. It also provides opportunities to learn through involvement and experimentation.

The center represents a building, an organization, and a program which supports and enhances the special mission of UW-Stout by providing quality facilities, services and programs to the university community.

The Memorial Student Center includes four dining service facilities, a service and information center, student activities administration, the University Bookstore, and University Recreation which includes the recreation center, weight training and fitness, aerobics, intramurals and open recreation.

You are invited and encouraged to use the facility, services, programs and activities offered by the Memorial Student Center. For more information about our services, call 232-1431.

Placement and Co-op Services

Placement and Co-op Services are available for all students and alumni. Four full-time counselors can help you plan for future employment opportunities. Services include computer registration and referrals, career conferences, campus recruitment, workshops and one-on-one counseling. Placement of graduates is a major emphasis at UW-Stout. Placement and Co-op Services maintains statistical reports on the employment of graduates.

More information is available from the Placement and Co-op Services Office, 103 Administration Building, 715/232-1601.

Residence Halls

Residence hall living will be a meaningful part of your life at UW-Stout. With the help of a professionally trained staff, students achieve their goals through a variety of social, educational and recreational activities. The university provides residence hall accommodations for approximately 2,900 students. The UW System policy requiring freshmen and sophomores (*59 credits or fewer who are not veterans, married or living with parents or guardian*) to live in university residence halls is strictly enforced.

We encourage you to apply for residence hall accommodations immediately after being accepted to the university. An application card for the residence halls accompanies the letter of acceptance from the Admissions Office.

We send out lease/contracts for residence hall rooms in the order in which we receive applications for rooms. We require a \$100 security deposit with each lease/contract. Please note that \$25 of that amount is a non-refundable processing fee. The remaining \$75 is applied against the final payment for the second semester. You will be notified of the date you may move into your room before classes begin each semester. The lease/contract is valid for the entire academic year.

UW-Stout offers several special interest floors such as smoke-free, alcohol-free, quiet study and upperclass. One hall houses upperclass students and non-traditional students only. Single rooms are available at an additional cost. You may request a special interest floor when you submit your residence hall lease/contract.

Each 11' x 15' room is furnished with two single beds, dressers, study tables, chairs, bookcases, carpet and a touch-tone telephone. We permit radios, stereos and television sets in the rooms as long as you comply with the regulations for their use. Television sets are also available for general use in the main lounge of each building.

All residence hall students contract for their meals with **University Dining Service**. A wide variety of dining plans is available. Microwaves, coffee pots, hot pots and popcorn poppers with unexposed elements are permitted in student rooms. Small refrigerators and microfridges (*refrigerator, freezer and microwave compact units*) are available for rental. Each residence hall also has a fully equipped kitchen.

The Stout Student Association Office maintains a list of off-campus housing. If you plan to live off campus, you may find it useful to visit Menomonie to secure the type of housing you desire.

Student Health Services

All registered UW-Stout students are eligible for care at the Student Health Services. Clinical and educational services are funded by the student health fee which is included in the tuition and fee payment. Services include illness and injury care, health maintenance, allergy injections, immunizations, lab services, contraceptive options, confidential HIV/AIDS counseling and testing, and health education programming. Call for an appointment at 715/232-1314. Services are available from 8 a.m. to noon and 1-4:30 p.m., Monday through Friday during the period when classes are in session. Health services are not available during the summer. If you need urgent care during hours when the Health Services is closed, contact Red Cedar Clinic, 715/235-9671, or the Myrtle Werth Medical Center, 715/235-5531. All costs are the responsibility of the student.

Student Services

Student Services is a collaboration of programs that provide services for students with various academic, vocational and personal needs. For information on any of the following services, contact Student Services central office at 206 Bowman Hall, 715/232-2995.

Advisement Assistance Center The Advisement Assistance Center is a "one-stop" information and assistance center for students, faculty and staff. Stop in or make an appointment if you have questions about new student orientation, identifying your faculty adviser, study skills, general advisement, information resources, change of major, or withdrawal from UW-Stout. The center works cooperatively with your faculty adviser and the Degree Audit System (DARS).

For more information, call 715/232-1465 or visit 11 Bowman Hall. Hours are 7:45 a.m. – 4:30 p.m., Monday through Friday.

New Student Orientation New students and their parents should attend an orientation and registration program. During these scheduled one-day visits, you'll participate in orientation activities that provide important information about services, degree programs, career opportunities, and academic advisement, and you'll develop your first semester class schedule.

Orientation is held in June and July for students entering in the fall semester, and in December for students entering in the spring semester. Additional activities take place the week immediately before classes begin.

For more information, call 715/232-1465 or visit 11 Bowman Hall.

Student Support Services – ASPIRE ASPIRE is a federally funded academic support program for post-secondary education students. Services are targeted toward first generation college students, low income students, or students having a physical or learning disability.

ASPIRE programming provides peer tutoring, and educational, career and personal development activities for eligible students. The staff helps students monitor their academic progress and provide academic counseling and other services to help students achieve their academic and vocational goals.

For more information, call 715/232-2995 or visit 206 Bowman Hall.

Talent Search Talent Search is a federally funded program that provides academic, vocational and career services to students in grades 6-12 in northern Wisconsin promoting graduation and further education or training. Services include tutoring, study skills, personal development activities, and assistance in applying for admission to post-secondary education and for financial aid.

Academic Skills Program The Academic Skills Program can help you improve your reading, writing, spelling and study skills through individual help or through a one-credit course titled Study Skills and Reading Improvement (421-280). Peer tutors provide writing assistance each quarter to small groups.

For more information, call 715/232-1465 or visit 11 Bowman Hall. Hours are 8 a.m. – 4:30 p.m., Monday through Friday.

Volunteer Tutor Program Student volunteers, trained by the tutor coordinator, provide individual tutoring to peers through this program. The volunteers have been successful in the courses for which they tutor. The program targets selected courses that traditionally have proven difficult for students.

For more information, call 715/232-3086 or visit 13 Bowman Hall.

Multicultural Student Services Multicultural Student Services provides programming and personal support assistance to African-American, Native American, Hispanic and Southeast Asian students. The staff provides academic, career and personal counseling, and information and assistance with scholarships. Several cultural organizations are available for multicultural and other interested students.

For more information, call 715/232-1465 or visit 11 Bowman Hall.

Services for Students With Disabilities Students who require assistance due to a physical or learning disability should contact the Services for Students With Disabilities program at least eight weeks before the semester begins, to assure that appropriate support and accommodation will be in place when they arrive on campus. You must provide appropriate documentation of your disability and needed accommodations to be eligible for services.

Services offered include taped textbooks, assistance with classroom accommodations and self-advocacy skill building. Staff members act as liaisons with faculty and staff, provide referrals to appropriate campus and community resources, and assist students with academic support and registration for classes.

For more information, call 715/232-2995, or visit 206 Bowman Hall.

Returning Adult Student Program Returning adult students who have been absent from the educational system for a time should contact Student Services staff for assistance with academic, personal or adjustment issues related to returning to college.

An orientation each semester allows returning adult students to exchange information and meet other adults on campus. The Organization of Adult Students (OASIS) is a social and support group for adult students. OASIS programming includes weekly lunch gatherings at Memorial Student Center, monthly meetings, social gatherings, and an annual awards banquet.

For more information, call 715/232-2468 or visit 400 Bowman Hall.

University Counseling Center College students face many developmental and personal issues. Everyone encounters dilemmas, decisions and personal questions that are difficult to answer. The University Counseling Center helps you find answers to these and other academic, social and personal questions.

Workshops and support groups are offered throughout the year in such areas as career planning and life goals, building social skills, stress management, eating disorders, depression, building self-esteem, learning time management and other life skills.

Testing services offered by the center include CLEP and PEP (see *Credit By Examination*, page 7), Miller Analogies Test, ACT Residual, interest inventories, Test of English as a Foreign Language (TOEFL), and personality tests. In addition, information and application forms are available for a variety of other tests, such as the GRE, SMAT, LSAT and NTE.

Confidentiality is stringently protected by state and federal statutes, as well as by the ethical standards of the American Psychological Association and other professional organizations.

To make an appointment, call 715/232-2468 or visit 400 Bowman Hall. Hours are 7:45 a.m. – 4:30 p.m., Monday through Friday.

Alcohol and Other Drug Education Program The Alcohol and Other Drug Education Program (AODEP) offers groups, classes, special presentations, information, resources, intervention and other campuswide activities.

For more information, call 715/232-2468 or visit 400 Bowman Hall.

Telecommunications and Networking

Telecommunications and Networking, a unit of Technology and Information Services, provides the campus with voice, data, video networking support (for distance education). The unit also maintains and repairs campus computing, audiovisual and television equipment.

Teleproduction Center

The Stout Teleproduction Center is a broadcast-level production facility which produces programming for Wisconsin Public Television and other state educational organizations and non-profit agencies. The center also provides services for satellite video conference origination.

Veterans Service

The Registration and Records Office provides assistance to veterans. This office provides veteran students with current information on veteran's affairs, coordinates special educational programs for veterans, and maintains liaison with the Veterans Administration, Department of Veterans Affairs and the County Veterans Service Officers. All veterans receiving assistance must file the appropriate forms with this office to be officially certified to receive benefits.

TEACHER EDUCATION

Professional Teacher Education

The Office of Teacher Education is responsible for all clinical programs, maintains appropriate student records, maintains appropriate records for accreditation and Wisconsin Department of Public Instruction program approval, and serves as a resource center for students, faculty, program directors and administrators. The director of the Office of Teacher Education is also the certification officer at UW-Stout.

You can find complete curriculum for specific teacher education programs in this bulletin under:

Art Education
Early Childhood
Family and Consumer Educational Services
Technology Education
Marketing Education
Vocational Rehabilitation – Special Education

Undergraduate Teacher Education

When you enroll in an education program at UW-Stout, you will be placed in a **preprofessional** program status until you meet the requirements for **professional** program admission. You must follow the procedures in this section to ensure graduation and certification in a professional education program. If, after reading this section, you have questions, please contact your program director or the director of the Office of Teacher Education, 715/232-1088, 342 Vocational Rehabilitation Building. The Wisconsin Department of Public Instruction makes periodic changes in teacher certification requirements that may affect you and your program. It is your responsibility to contact the Office of Teacher Education to make certain you have the most current information so that you know that you are pursuing a program plan that will allow you to be certified.

Education majors must proceed through three steps:

1. Professional Program Admission
2. Admission to Student Teaching
3. Teacher Certification

Professional Program Admission

You should start preparing for admission to your professional program beginning in your freshman year. To be an effective teacher, you'll need expertise in a subject area, but also fundamental skills and competencies needed in any teaching field. Professional program admission ensures that you will meet basic standards of the profession. In order to be admitted to a professional teacher education program, you must have:

1. completed 40 semester credit hours,
2. completed the Application for Professional Program Admission,
3. achieved a minimum cumulative grade point average of 2.75, and
4. passed the Preprofessional Skills Test (PPST).

You may obtain the Application for Professional Program Admission from the Office of Teacher Education.

Requirements for Professional Program Admission:

1. Communications:
 - a. College English - You must have earned a grade of at least a "C" (2.0) in English 326-101 and 326-102 or 321-111 and 326-112.
 - b. Speech proficiency - You must have earned a minimum grade of "C" (2.0) in 391-100, Fundamentals of Speech. You may also meet this requirement by receiving at least a "C" (2.0) on the written and oral portions of "The Speech Department Credit by Examination Procedure" for 391-100, or by successfully completing a second speech course selected from the following: 391-200, 391-206, 391-508 or 391-512.
2. Academic Standards: You must have a minimum cumulative grade point average of 2.75 for professional program admission. (*You must maintain a 2.75 grade point average for the remainder of the program as a requirement for admission to student teaching, graduation and recommendation for certification.*)
3. A passing score on the Preprofessional Skills Test in Mathematics, Reading and Writing. (*The Office of Teacher Education has information concerning the cost, dates and location of the test.*)

Admission to Student Teaching

Student teaching is an extremely important and valuable part of your teacher preparation program. Your program director will provide you with the objectives to be fulfilled during student teaching, including, but not limited to, instruction, supervision, pupil evaluation, conferences with parents and faculty meetings. You will also be given the criteria for evaluation and retention in student teaching. One year prior to the semester in which you plan to student teach, you must complete the Application for Admission to Student Teaching, available from the Office of Teacher Education.

Requirements for Admission to Student Teaching:

1. A 2.75 cumulative grade point average.
2. Completion of all requirements for professional program admission.
3. Successful completion of all preclinical and human relations field experiences (2.75 grade point average with a minimum grade of "C" [2.0] in each).
4. Successful completion of all education courses identified in the Application for Admission to Student Teaching (2.75 grade point average with a minimum grade of "C" [2.0] in each).
5. Competence in the area of academic specialization as specified by the program.

Teacher Certification

Teacher education programs at UW-Stout meet state teacher certification requirements in Wisconsin. Programs will likely meet certification requirements in many, if not all, other states. However, teacher certification varies by state (*some require state history or other course work*) and requirements change periodically. Therefore, if you are contemplating teaching in another state, you may wish to clarify the acceptance of your program at UW-Stout with the state in which you plan to teach. The director of the Office of Teacher Education is the certifying officer at UW-Stout. Forms and information concerning the certification process are available in the Office of Teacher Education.

Requirements You must meet the following requirements before UW-Stout can recommend you for certification in an undergraduate certification program:

1. Graduation with a minimum grade point average of 2.75 based on all course work except the clinical program. (*Clinical program is defined as all supervised experiences in a school setting which provide practical experience for the student, including prestudent teaching, student teaching, practicum and internships.*)
2. Successful completion of student teaching. (*Minimum grade of "B" [3.0] in programs using the grading system, or "S" in programs using the OSU option.*)
3. A passing score on a standardized examination administered by the Department of Public Instruction. The passing score is determined by the State Superintendent of Public Instruction. (*The Office of Teacher Education has information concerning when and where this examination is administered.*)

Graduate Certification Programs

If you intend to enroll in a graduate certification program, refer to the Graduate Bulletin for the requirements to become a practicing professional.

SPECIAL PROGRAMS

Honors Program

The Honors Program provides additional opportunities to challenge yourself academically and to enrich your educational experience. The curriculum stresses learning and activity through integrated and complementary honors courses in the arts and sciences, family studies, education, and technology and offers enhanced learning opportunities to students with high academic potential.

Students in the upper tenth of their high school class or in UW-Stout's ACT scores will be invited to participate in the program. Students must maintain a minimum 3.0 overall grade point average to continue in the program. An Honors Program adviser serves in addition to the degree program adviser. Students receive social support through the Academic Honors Society and through a faculty mentor program.

Honors Program requirements include 12 credits in addition to the major and general education requirements. These credits could be taken as electives in the degree program or as additional courses.

For more information, contact the Honors Program director at 715/232-1345.

Preprofessional Programs

Professional schools have prescribed the nature and amount of course work to be completed as a prerequisite to their professional program of study for a particular vocation. UW-Stout offers opportunities for you to complete the preprofessional component of most of the major professional fields, although we do not offer degree programs in most of these areas. In almost all of the cases listed below, you would not complete a degree at UW-Stout.

To ensure appropriate course selection for credit transfer, you should research the specific program requirements and exceptions for the school to which you intend to transfer *before* enrolling in courses at UW-Stout. An adviser can help match UW-Stout courses to those required.

UW-Stout has an articulation agreement with UW-Platteville for pre-engineering. Information on requirements at specific professional schools can be obtained at the University Counseling Center, the Library Learning Center, or from the preprofessional program adviser.

For additional information, call 715/232-1345 or 232-5045.

Preprofessional Programs

pre-architecture	pre-law	pre-occupational therapy
pre-chiropractic	pre-medical technology	pre-optometry
pre-dentistry	pre-medicine	pre-pharmacy
pre-engineering	pre-mortuary science	pre-physician assistant

The Co-op/Intern Program

Some degree programs require a co-op/intern experience, and it is a valuable option in many others. It provides an opportunity to work with professionals in your career area, before you graduate.

The program director approves a published job description before you begin the experience. You are awarded credit based on the length of the experience, the responsibilities given you, and the goals and objectives you carry into the job. Grades and credits are awarded by a university mentor.

A co-op or internship can be as short as one summer, or can last for a combination of semesters. For more information, contact Placement and Co-op Services, Room 103, Administration Building, 715/232-1601.

Field Experience Program

We encourage you to obtain part of your college education off the Menomonie campus through the Field Experience program. This program allows you to receive academic credit for learning related to your major or minor, while employed in an approved off-campus field position. Field experience requirements vary by major. In some cases, a co-op/intern position will satisfy this requirement. Most students use their summers to enroll in this program, but part-time work may also be permissible. For more information, contact the dean's office of the school that houses your major.

Industrial Work Experience

Students who have completed three years of skilled occupational experience beyond the learning level of a trade may earn a maximum of 24 semester hours of technical credit through examinations. Students with less experience may request examination in specific technical courses. If you wish to seek credit for skilled occupational experiences, present evidence of the required amount of work to the program director of Vocational, Technical and Adult Education in the School of Industry and Technology. Contact the program director shortly after registration to allow time for review of your materials and the examination.

Independent Study Program

The Independent Study Program allows you to design a limited number of courses yourself, to meet your individual goals. You begin by picking up an Application for Independent Study from the office of the associate dean of the school that houses the type of course you want. You identify the course objectives, methods and evaluation process, and submit it to an independent study coordinator for processing and approval. You'll work with an assigned independent study coordinator who provides counsel and help. Independent study topics are different from existing courses. Be sure to ask your program director if your proposed independent study may be used in your degree program.

Summer Session

UW-Stout conducts a 10-week summer session with classes varying in length from one week to eight weeks. You may earn up to 10 credits during the 10 weeks of summer session. The Summer Session Bulletin is available after March 1. A copy will be sent on request. We encourage you to pre-enroll in classes in April and May.

Pigeon Lake

The UW System sponsors summer programs at the Pigeon Lake Field Station near Drummond in Bayfield County of northwestern Wisconsin. Station offerings include undergraduate and graduate courses in field biology, mapping, outdoor education, recreation, counseling and art. Class sessions vary from one to three weeks with some classes weekends only. Credit earned at the station is accepted as residence credit at UW-Stout. The field station is located in a natural outdoor laboratory among lakes, streams and forests. For more information, contact the registrar at UW-Stout or the director of the Pigeon Lake Field Station, UW-River Falls.

Continuing Education

UW-Stout has a tradition of providing educational opportunities on a local, regional, statewide and national basis as a commitment to the concept of life-long learning.

The Office of Continuing Education/Extension and Summer Session coordinates all off-campus educational activities. Off-campus credit and non-credit opportunities include:

1. Off-campus courses offered in the rural local service area of UW-Stout, as well as statewide, based on our special mission within the UW System, with a particular focus on vocational-technical education.
2. Teleconference courses mediated via the use of telephone network coordinated by our campus.
3. National satellite videoconferences.
4. Television courses via ETV Network.
5. Weekend workshops.
6. National, regional and state conferences.
7. Weekend college.
8. Computer online credit and non-credit courses.

Army ROTC

UW-Stout students may attend Army ROTC courses offered through UW-La Crosse and apply them toward their degree requirements where appropriate. For more information, contact the Provost's Office at 715/232-2421.

Mentoring International Students

Between 150 and 250 international students from more than 30 countries study at UW-Stout each year. American students are invited to volunteer for the mentor program for international students organized by the coordinator of International Student Services. This provides structured opportunities for those who are not able to study abroad to communicate with students from other cultures and learn from them, while providing a valuable service.

For more information, contact the Office of International Programs, 400C Bowman Hall, 715/232-1896.

Opportunities for Study Abroad

The Office of International Programs has developed a number of study abroad programs with institutions in other countries. Students generally enroll at UW-Stout and pay regular tuition and fees while studying abroad. Financial aid applies to the cost of most programs. We currently have formal cooperative agreements with these universities abroad:

United Kingdom

Middlesex University in London: General studies, international business, hospitality and tourism management

Northeast Wales Institute in Wrexham: General studies, child development, early childhood education, student teaching

Wisconsin in Scotland Study Center near Edinburgh: General studies, business administration

Napier University in Edinburgh, Scotland: Graphic Communications Management

Sweden

Sköde University: Business studies

Mexico

Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM)

Monterrey — Intensive Spanish language, international business, general studies

Guadalajara — Intensive Spanish language, international business courses in English, business, general studies

Cuernavaca — Intensive Spanish language (summer)

Art and Design Department Exchange Programs

Fachhochschule in Hildesheim, Germany

Northbrook College, England

Apparel, Textiles and Design Department Program

American College in London: Fashion, retailing, apparel design

Programs of study are available in Spain, Germany, Australia and other countries through cooperation with other UW campuses. We encourage you to study abroad as part of your education at UW-Stout.

For complete information on all of these study abroad programs, check StoutInfo under Academic Programs or contact the Office of International Programs, 400C Bowman Hall, phone 715/232-1896.

Graduate Studies

The Graduate College administers graduate admissions, records, policies and other procedures relating to graduate students. Graduate programs include:

Applied Psychology	Industrial and Vocational Education (Ed.S.)
Education	Management Technology
Food Science and Nutrition	Marriage and Family Therapy
Guidance and Counseling	Risk Control
Guidance and Counseling (Ed.S.)	School Psychology
Home Economics	Training and Development
Hospitality and Tourism	Vocational Education
Industrial/Technology Education	Vocational Rehabilitation

Dual Undergraduate – Graduate Enrollment

Undergraduate students in their last term of enrollment who are carrying 14 or fewer undergraduate credits may begin graduate study in one of UW-Stout's graduate programs. Application for dual enrollment should be made to the Graduate Office. Initial enrollment in a graduate program must be concurrent with the final enrollment for the undergraduate degree.

Glossary

Academic Probation

A condition of attendance under which students are allowed to remain at the university with the understanding that they meet set academic standards within a set period of time. Failure to meet the standard results in dismissal from the university.

Add and Drop

The process of changing a course schedule by dropping or adding a course during the prescribed time at the beginning of each semester.

Audit

Students register and attend class, but do not take examinations. No credit hours are earned, and the cost of the class is less than regular tuition. "AU" will appear on the grade record.

Bachelor's Degree

The degree received after completing a specific program of undergraduate study and fulfilling all graduation requirements.

Certification

A recognition of professional achievement bestowed by an outside organization.

Class Load

The number of credit hours carried by a student each semester.

Class Standing

A measurement of achievement based on the number of credit hours earned. Students with 90 or more credits are seniors. Juniors have 60 or more credits, and sophomores have at least 30 credits.

College

An administrative division of the university housing academic departments, degree programs and other administrative units. At UW-Stout these are: Arts and Sciences; Human Development; and Technology, Engineering and Management.

College Parallel Program

A program of study offered at Wisconsin Technical Colleges and UW System Centers in which the courses meet the requirements and standards of courses offered at the university.

Concentration

A component within a degree program that examines a selected area of the student's chosen professional field in greater detail. A concentration may be part of the university's planned offerings or designed by the student.

Cooperative Education

Cooperative education is a learning approach that integrates college studies with working experiences in industry, business, government and public service. Under the plan, students leave campus for three to six months for the rigors and responsibilities of actual employment situations. The objective is to offer an additional option for learning and to give students a realistic education.

Credit Hour

A measure of academic work. One credit hour usually represents one hour of class time per week plus two hours of out of class study.

Credit Load

The number of credits a student registers for during a semester.

Degree Program

A planned program of study leading to a bachelor's degree.

Degree-Seeking Student

A student who has been admitted to a degree program and is seeking a bachelor's or master's degree.

Disadvantaged

Deprived of basic social rights and security through poverty, discrimination, or other unfavorable circumstances.

Educationally Disadvantaged

Deprived of a socially adequate education through poverty, discrimination, or other unfavorable circumstances.

Elective

A course taken at the choice of the student. If the electives are in the general education component of a degree program, they must be general education courses.

Emphasis

A designated group of courses within a degree program that affords increased exposure to a specific area in the student's chosen professional field.

Ethnic Studies

Courses that satisfy the ethnic studies requirement, a part of the university's design for diversity initiative, deal in some aspect with sensitivity to African American, Asian American, Hispanic and Native American cultures. Ethnic Studies courses are expected to discourage racism, thus reducing its effects, and to promote appreciation of ethnic diversity as it is manifested in nonwhite groups.

Full Time Student

An undergraduate student who enrolls for at least 12 credits during the fall or spring semester, or one credit per week of study during the summer session.

General Education Requirement

A component of a degree program that provides a broad-based education with required course work in communication skills, analytic reasoning, health and physical education, humanities and the arts, social and behavioral sciences, natural sciences, and technology.

Good Standing

Maintaining an academic record that meets UW-Stout's requirements, eligible to continue at or return to the university, or to transfer to another institution.

Grade Point

The numerical value given to letter grades, based on an "A" receiving four points, a "B" three points, and so on.

Grade Point Average (GPA)

The numerical value assigned to a student's scholastic average, computed by dividing the total grade points by the total credit hours attempted.

Grant

Financial assistance that does not have to be repaid.

Hold

A barrier placed on a student's ability to register for classes as a result of unpaid monetary obligation or other action by the university.

Incomplete

The grade assigned only if a student is temporarily unable to complete course requirements because of unusual circumstances.

Independent Study

A course of study designed by a student and undertaken outside the classroom, under the supervision of one or more faculty.

Interdisciplinary

Drawing on two or more disciplines in a single course or program.

Internship

Work in a company or agency related to a student's degree program and career plans, usually for academic credit and often also for payment.

Major

A planned program of study leading to a bachelor's degree. Term is often used interchangeably with degree program.

Major studies

A component within a degree program that provides fundamental education for a particular career discipline.

Minor

A sequence of related courses consisting of 15 or more semester hours of credit.

Practicum

Directed work experience related to a program of study.

Prerequisite

A course or experience that must be successfully completed before enrollment in a designated course.

Professional Electives

Required credits that are not prescribed by the program by designation of a specific course, but that are professional and specific in their content as they pertain to the major.

Program Director

The program director is responsible, with the advisement of the program committee, for the total curriculum of the major program and aids students in meeting all requirement for that program.

Readmission

An appeal procedure for students who have been dismissed or suspended, administered through the Student Affairs Office.

Re-Entry

An enrollment procedure followed by students who were previously enrolled in good standing at UW-Stout but whose attendance was interrupted for two or more consecutive semesters.

Registration

The process of enrolling in and paying for courses each semester.

Selectives

A group of courses from which a student must choose a prescribed number of credits to meet a program requirement.

Semester

A unit of time, generally 16 weeks long, in the academic calendar.

Specialization

A specialization is a program of study, with carefully constructed learning goals and experiences, and evaluation procedures. UW-Stout offers specializations in International Studies, Professional Writing, Public Relations/Public Information, and Training and Human Resource Development.

Suspension

To be excluded from the university as a penalty for failure to meet academic or behavioral standards.

Teaching Major/Minor

A state-approved program for teacher certification for teaching at the secondary and/or elementary level.

Transcript

A copy of a student's permanent academic record.

Transfer Credit

Academic credit earned at another accredited institution and accepted toward a UW-Stout degree.

Tuition

The amount of money that must be paid for a course.

Degree Programs



General Education Requirements

Introduction

Each degree program at UW-Stout has a general education component. This component is designed to provide you with knowledge and skills in communication, analytical reasoning, health and physical education, humanities and the arts, social and behavioral sciences, natural sciences and technology.

The university also requires students to take courses to learn about the diverse cultures that make up the United States. With careful planning, some of the general education courses and diversity courses may overlap. That is, you may take a course that meets both general education and diversity requirements. While the credits you earn count once toward graduation, they may be used to satisfy requirements in these two areas.

General Education Credit Distribution

A. Communication Skills 8 Credits

326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II	3
391-100	Fundamentals of Speech	2

B. Analytic Reasoning 6 Credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education 2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts, and philosophy. When external accreditation standards warrant a depth requirement with sequenced courses, the nine credits must be taken from two or more areas.

E. Social and Behavioral Sciences 9 Credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology. When external accreditation standards warrant a depth requirement with sequenced courses, the nine credits must be taken from two or more areas.

F. Natural Sciences (with Lab) 4 Credits

G. Technology 2 Credits

H. General Education Electives 0–6 Credits

Courses must be from categories A, B, D, E and F.

Total 40–46 Credits

Some degree programs have specific general education courses that must be taken in order to satisfy certification, accreditation or prerequisite standards. These exceptions are noted in the general education requirements of each program.

Course Description Codes

In the course description section of this bulletin, general education courses are coded **GE** to identify which category the course is from. The letters which follow **GE** indicate the particular general education category the course applies to, as indicated in the following chart.

GECOMMSK WRIT = Communication Skills – Writing
GECOMMSK RDG = Communication Skills – Reading
GECOMMSK SPK = Communication Skills – Speaking
GECOMMSK LNG = Communication Skills – Language

GEANRSN STAT = Analytical Reasoning – Statistics
GEANRSN MATH = Analytical Reasoning – Mathematics
GEANRSN LOG = Analytical Reasoning – Logic

GEH/PE ACTV = Health and Physical Education – Activity
GEH/PE HLTH = Health and Physical Education – Health

GEHUMART ART/MU = Humanities and the Arts – Art History/Music Appreciation
GEHUMART CR/PRF = Humanities and the Arts – Creative/Performing Arts
GEHUMART HIST = Humanities and the Arts – History
GEHUMART LIT = Humanities and the Arts – Literature
GEHUMART PHIL = Humanities and the Arts – Philosophy

GES/BSCI ANTH = Social and Behavioral Sciences – Anthropology
GES/BSCI ECON = Social and Behavioral Sciences – Economics
GES/BSCI GEOG = Social and Behavioral Sciences – Geography
GES/BSCI POLS = Social and Behavioral Sciences – Political Science
GES/BSCI PSYC = Social and Behavioral Sciences – Psychology
GES/BSCI SOC = Social and Behavioral Sciences – Sociology
GENSCI LFSC = Natural Sciences – Life Sciences
GENSCI LFSC LAB = Natural Sciences – Life Sciences Laboratory
GENSCI PHYSC = Natural Sciences – Physical Science
GENSCI PHYSC LAB = Natural Sciences – Physical Science Laboratory

GETECH = Technology

Ethnic Studies Requirements and Codes

Since fall 1990, all students entering UW-Stout are required to satisfy an ethnic studies requirement for graduation. The courses are categorized as "A," "B," or "C" level and are coded **ES-A**, **ES-B** or **ES-C** in the course description section of this bulletin.

ES-A courses directly address diversity in American culture. **ES-B** courses focus on a subject other than diversity, such as business, education or history. However, in the context of the subject area, the course will emphasize an understanding and appreciation of diversity. The primary goal of **ES-C** courses is to teach a professional skill or theory though the courses include a multicultural component.

Students are required to take either:

1. Two **ES-A** courses or
2. One **ES-A** course and one **ES-B** course or
3. One **ES-A** course and two **ES-C** courses or
4. One **ES-B** course and two **ES-C** courses or
5. Three **ES-B** courses or
6. Two **ES-B** courses and one **ES-C** course.

Transfer students who have fulfilled the ethnic studies requirement at another UW System university are exempt from meeting UW-Stout's criteria.

APPAREL DESIGN/MANUFACTURING

Introduction

The Apparel Design/Manufacturing program prepares students for careers in the apparel and fashion-related industries—specifically for careers in apparel product design and development, apparel pre-production and production, and apparel quality assurance aspects—as team members who understand the “whole” of the apparel pipeline.

The professional courses are mostly project oriented and supported by state-of-the-art laboratories. Yearly, the program has learning experiences with credit available via traveling to New York City and Atlanta. A semester of study at the American College in London is available to apparel design/manufacturing students. See Opportunities for Study Abroad, page 18, for details.

The Apparel Design/Manufacturing program is one of only nine programs in apparel manufacturing in North America that has affiliation status with the American Apparel Manufacturers Association.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	29 credits
Concentrations	30 credits
Electives	1 credit
Minor, Specialization or Emphasis Area	22 credits

A grade of C (2.0) or better must be obtained in courses in the major studies and the first concentration.

Students are required to take 29 credits as listed under “major studies” and select one of two 30-credit concentrations:

1. Apparel Design
2. Apparel Manufacturing

An additional 22 credits must be in a focused area such as a minor (art, business administration, computer science, economics, journalism or speech are recommended); a specialization (international studies or training and human resource development are recommended); or an emphasis (selecting the other Apparel Design/Manufacturing concentration, retail or graphic communication areas are recommended).

Program Requirements

General Education

42 credits required

A. Communication Skills

8 Credits

326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

354-130 Elementary Statistics (for Apparel Manufacturing Concentration)	2
Remaining courses must be from areas including math, logic, statistics and computer science.	

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

320-210 Principles of Economics I	3
Remaining courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.	

F. Natural Sciences (with Lab)

4 Credits

G. Technology

2 Credits

H. General Education Electives

2 Credits

Courses must be from categories A, B, D, E and F.

Major Studies

29 credits required

214-120 Introduction to Apparel, Textiles and Merchandising	2
214-140 Textiles	3
214-166 Apparel Construction	3
214-202 Quality Analysis of Sewn Products	3
214-274 Apparel Manufacturing	3
214-275 Apparel Grading/Marker Making	3
214-280 Flat Pattern	3
214-374 Apparel Manufacturing Laboratory	3
214-519 International Economic Trends in Textiles and Clothing	3
214-550 Textile Evaluation	3

Concentrations

Apparel Design		30 credits
214-112	Fashion Forecasting	3
214-285	Design for Apparel Production	3
214-368	Experimental Clothing	3
214-581	Functional Clothing Design	3
214-594	Knit Design and Technology	3
214-610	History of Costume – Ancient to European	3
214-611	History of Fashion – 19th Century to Present	3
214-617	Social/Psychological Aspects of Clothing	3
214-680	Draping	3
214-685	Apparel Design Studio	3

Apparel Manufacturing		30 credits
150-120	Quality Concepts	3
150-200	Production/Operations Management	3
150-540	Time and Motion Study	3
160-304	Principles of Management	3
160-330	Principles of Marketing	3
214-227	Basic Merchandising	3
214-671	International Textile/Apparel Sourcing	3
214-674	Apparel Manufacturing: Computer Management Systems	3
214-6XX	Apparel Manufacturing Management	3
479-582	Human Resource Management	3

Electives

1 credit required

Minor, Specialization or Emphasis Area

22 credits required

Optional Experience and Academic Opportunities

214-398	Field Experience	1-2
214-449C	Clothing, Textiles and Design Cooperative Education	3-6
214-477	Study Abroad – American Fashion College	16
214-605	International Study Tour to the Fashion Industries	1-6
214-619	National Study Tour to the Fashion Industry	1

APPLIED MATHEMATICS

Introduction

The role of mathematics in our highly scientific-technological society is basic and essential. Mathematical thought and modeling are valued tools in our sophisticated industrial community. The application of mathematics to industry and business to meet society's needs is increasing. This growth and demand continues to create a need for graduates with training in Applied Mathematics.

The program in Applied Mathematics provides 1. a strong foundation in academic mathematics; 2. computational concepts and techniques in computer science, statistics and mathematical models; 3. experiences in areas where mathematics, computers and/or statistics are utilized; and 4. a broad offering of liberal arts courses.

At the completion of the freshman year or after entering the Applied Mathematics program, all students prepare and submit a tentative plan or guide for their undergraduate program. This plan is developed through consultation with an academic adviser and the Program Director. The ultimate plan is developed to meet the student's professional objectives and goals through the appropriate selection of courses within the major studies and the desired related area in which mathematics, computers and/or statistics are used.

Off-campus work in an approved position using computer and/or statistical techniques in the analysis and solution of real world problems is a valuable option within this major. Students receive salaried appointments and course credits. This experience can be included within the program and completed during the junior or senior year. The duration of the experience is for periods of a summer or a summer plus one semester.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	43-45 credits
Major Studies	53 credits
Concentration	22-27 credits
Electives	1-6 credits

In fulfilling the necessary competencies for a degree, a student may complete the requirements for a minor in Business Administration, Economics, Physics, Chemistry, Biology, Computer Science or Speech. It is the student's responsibility to obtain approval for the minor from the department offering it.

Program Requirements

General Education

43-45 credits required

A. Communication Skills	8 Credits
326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning	7-8 Credits
354-144 Computer Science I	3
355-153 Calculus I or	
355-156 Calculus and Analytic Geometry I	4-5

C. Health and Physical Education	2 Credits
<i>Courses must be from areas of health, physical education or nutrition.</i>	

D. Humanities and the Arts	9 Credits
<i>Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.</i>	

E. Social and Behavioral Sciences	9 Credits
<i>Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.</i>	
<i>Students enrolled in the Business Management Concentration should take:</i>	
320-210 Principles of Economics I	3
<i>Remaining courses must be from three or more areas including anthropology, geography, political science, psychology and sociology.</i>	

F. Natural Sciences (with Lab)	4-5 Credits
<i>See selected concentration for course selection.</i>	

G. Technology	2 Credits
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H. General Education Electives	2 Credits
<i>Courses must come from categories A, B, D, E and F.</i>	

Major Studies

53 credits required

Foundational Mathematics

25 credits

Credit distribution based on the concentration selected.

Techniques – Analysis

355-154	Calculus II or	
355-157	Calculus and Analytic Geometry II	4-5
355-158	Calculus III	3
355-255	Differential Equations	3

Select 6-9 credits from the following:

Techniques – Algebra

355-275	Linear Algebra	3
355-370	Modern Algebra I	3

Theory of Algebra

355-371	Modern Algebra II	3
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Select 6-9 credits from the following:

Geometric Applications

355-262	Modern Geometry	3
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Theoretical Analysis

355-350	Vector Analysis	3
355-450	Real Analysis I	3
355-451	Real Analysis II	3

Select 1-3 credits from the courses above not already taken.

Computational Mathematics

28 credits

Mathematical Models

354-490	Mathematical Models I	2
354-491	Mathematical Models II	2

Statistical Methods

See concentration for appropriate course selection.

Statistical Theory

See concentration for appropriate course selection.

Computer Language

See concentration for appropriate course selection.

Computer Methods

See concentration for appropriate course selection.

Concentrations

22-27 credits required

- Actuarial Science
- Applied Physics
- Applied Research
- Architectural Design
- Business Management
- Computer Graphics
- Computer Systems Integration
- Food Production Quality Control
- Industrial Management
- Mechanical Design
- Mechanical Design – Drafting
- Numerical Control
- Scientific Programming
- Software Development

Electives

1-6 credits

Select 1-6 additional elective credits from courses listed under the major, concentration or minor to complete the degree requirements of 124 credits.

Actuarial Science ConcentrationSelect the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:**Statistical Methods**

Select 4 credits from the following:

354-530	Statistical Methods	3
354-531	Design of Experiments I	2
354-532	Design of Experiments II	2

Statistical Theory

Select 8 credits from the following:

354-331	Probability and Mathematical Statistics I	3
354-332	Probability and Mathematical Statistics II	3
354-535	Applied Stochastic Processes I	2
354-536	Applied Stochastic Processes II	2

Computer Language

Select 6 credits from the following:

354-145	Computer Science II	3
354-240	FORTTRAN Programming	3
354-241	Assembly Language Programming	3
354-246	Computer Programming – COBOL	3
354-342	Survey of Programming Languages	3

Computer Methods

Select 6 credits from the following:

354-341	Data Structures	3
354-343	Mathematical Foundations of Computer Graphics	3
354-441	Computer Organization	3
354-442	Systems Programming	3
354-446	Numerical Analysis I	3
354-447	Numerical Analysis II	3
354-448	Software Engineering	3

► Actuarial Science Concentration Requirements

23 credits

326-XXX	Any Writing	3
354-590	Topics: Actuarial Exam I Prep	2
354-590	Topics: Actuarial Exam II Prep	2

Select 4 credits from:

3XX-XXX	Any Foreign Language	1-4
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Concentration Selectives

Select 12 credits from the following:

160-206	Introduction to Financial Accounting	3
160-207	Introduction – Corporate and Managerial Accounting	3
160-340	Business Finance	3
160-355	Principles of Risk Management	3
320-435	Money, Banking, Financial Markets	3
354-546	Simulation Modeling and Analysis	3
354-590	Topics: Actuarial Exam III Prep	2

Applied Physics Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530 Statistical Methods	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331 Probability and Mathematical Statistics I	3
354-332 Probability and Mathematical Statistics II	3

Computer Language

Select 6 credits from the following:

354-145 Computer Science II	3
354-240 FORTRAN Programming	3
354-241 Assembly Language Programming	3
354-246 Computer Programming—COBOL	3
354-342 Survey of Programming Languages	3

Computer Methods

Select 12 credits from the following:

354-341 Data Structures	3
354-343 Mathematical Foundations of Computer Graphics	3
354-441 Computer Organization	3
354-442 Systems Programming	3
354-446 Numerical Analysis I	3
354-447 Numerical Analysis II	3
354-448 Software Engineering	3

► Applied Physics Concentration Requirements 25 credits

311-135 College Chemistry I	5
372-282 University Physics II	5
372-380 Electromagnetic Fields	3
372-531 Statics	3
372-533 Dynamics	3

Concentration Selectives

Select at least 6 credits from:

184-270 Circuit Analysis	4
184-280 Networks	4
184-551 Introduction to Microprocessors	3
300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	6
372-527 Solid State Physics	3
372-529 Atomic and Nuclear Physics	3
372-535 Optics	3

Applied Research Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies:

Statistical Methods

Select 3 credits from the following:

354-530 Statistical Methods	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Statistical Theory

354-331 Probability and Mathematical Statistics I	3
354-332 Probability and Mathematical Statistics II	3

Computer Language

Select 6 credits from the following:

354-145 Computer Science II	3
354-240 FORTRAN Programming	3
354-241 Assembly Language Programming	3
354-246 Computer Programming—COBOL	3
354-342 Survey of Programming Languages	3

Computer Methods

Select 12 credits from the following:

354-341 Data Structures	3
354-343 Mathematical Foundations of Computer Graphics	3
354-441 Computer Organization	3
354-442 Systems Programming	3
354-446 Numerical Analysis I	3
354-447 Numerical Analysis II	3
354-448 Software Engineering	3

► Applied Research Concentration Requirements 22 credits

326-XXX Any Writing	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Concentration Selectives

Select at least 15 credits from one of the following blocks:

Operational Systems

300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	8
354-535 Applied Stochastic Processes I	2
354-536 Applied Stochastic Processes II	2
354-546 Simulation Modeling and Analysis	3

Psychological Techniques

300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	6
479-190 Psychological Research Methods	4
479-390 Experimental Psychology	4
479-690 Psychological Measurement	3

Marketing Systems

160-330 Principles of Marketing	3
160-679 Marketing Research	3
300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	6
320-470 Economic Model-Building and Forecasting	3

Packaging Systems

181-280 Packaging Fundamentals	2
181-380 Consumer Packaging Systems	3
181-480 Packaging Design and Evaluation	3
300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	7

Architectural Design Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530 Statistical Methods	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331 Probability and Mathematical Statistics I	3
354-332 Probability and Mathematical Statistics II	3
354-535 Applied Stochastic Processes I	2
354-536 Applied Stochastic Processes II	2

Computer Language

Select 6 credits from the following:

354-145 Computer Science II	3
354-240 FORTRAN Programming	3
354-241 Assembly Language Programming	3
354-246 Computer Programming—COBOL	3
354-342 Survey of Programming Languages	3

Computer Methods

Select 12 credits from the following:

354-341 Data Structures	3
354-343 Mathematical Foundations of Computer Graphics	3
354-441 Computer Organization	3
354-442 Systems Programming	3
354-446 Numerical Analysis I	3
354-447 Numerical Analysis II	3
354-448 Software Engineering	3

► Architectural Design Concentration Requirements 27 credits

182-233 Architectural Design I	3
182-335 Architectural Design II	3
183-110 Drafting	2
183-290 Mechanics of Solids I or	
372-531 Statics	3
183-592 Mechanics of Machinery I or	
372-533 Dynamics	3
311-135 College Chemistry I	5
372-282 University Physics II	5

Concentration Selectives

Select at least 3 credits from the following:

182-558 Structural Systems—Wood and Steel	3
183-212 Descriptive Geometry	3
183-636 Computer Assisted Design Problems	2
184-270 Circuit Analysis	4
184-280 Networks	4
184-583 Fundamentals of Control	4
184-683 Control Systems	3
300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	3

Business Management Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530 Statistical Methods	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331 Probability and Mathematical Statistics I	3
354-332 Probability and Mathematical Statistics II	3
354-535 Applied Stochastic Processes I	2
354-536 Applied Stochastic Processes II	2

Computer Language

Select 9 credits from the following:

354-145 Computer Science II	3
354-240 FORTRAN Programming	3
354-241 Assembly Language Programming	3
354-246 Computer Programming—COBOL	3
354-342 Survey of Programming Languages	3

Computer Methods

Select 9 credits from the following:

354-341 Data Structures	3
354-343 Mathematical Foundations of Computer Graphics	3
354-441 Computer Organization	3
354-442 Systems Programming	3
354-443 Database Systems Manipulation and Design	3
354-446 Numerical Analysis I	3
354-447 Numerical Analysis II	3
354-448 Software Engineering	3
354-546 Simulation Modeling and Analysis	3

► Business Management Concentration Requirements 24 credits

160-206 Introduction to Financial Accounting	3
160-207 Introduction—Corporate and Managerial Accounting	3
160-312 Cost Accounting or	
160-335 Accounting for Management Decisions	3
160-330 Principles of Marketing	3
320-215 Principles of Economics II	3
326-515 Technical Writing	3

Concentration Selectives

Select at least 6 credits from the following blocks:

Finance

160-318 Business Law I	3
160-320 Income Tax Accounting	3
160-340 Business Finance	3
160-355 Principles of Risk Management	3

Economics

320-421 Collective Bargaining and Labor Relations	2
320-435 Money, Banking, Financial Markets	3
320-470 Economic Model-Building and Forecasting	3

General

150-600 Organizational Leadership	3
160-318 Business Law I	3
160-679 Marketing Research	3

Additional Option

300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	6

Computer Graphics Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530	Statistical Methods	3
354-531	Design of Experiments I	2
354-532	Design of Experiments II	2

Statistical Theory

Select 6 credits from the following:

354-331	Probability and Mathematical Statistics I	3
354-332	Probability and Mathematical Statistics II	3
354-535	Applied Stochastic Processes I	2
354-536	Applied Stochastic Processes II	2

Computer Language

Select 6 credits from the following:

354-145	Computer Science II	3
354-240	FORTRAN Programming	3
354-241	Assembly Language Programming	3
354-246	Computer Programming—COBOL	3
354-342	Survey of Programming Languages	3

Computer Methods

354-341	Data Structures	3
354-441	Computer Organization	3
354-442	Systems Programming	3
354-448	Software Engineering	3

► Computer Graphics Concentration Requirements 24 credits

354-343	Mathematical Foundations of Computer Graphics	3
354-446	Numerical Analysis I	3
354-447	Numerical Analysis II	3
354-545	Image Processing	3
354-XXX	Solid Modeling	3

Select 6 credits from:

3XX-XXX	Any Biology, Chemistry and/or Physics	6
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Concentration Selectives

Select 3 credits from either option:

Option 1

181-504	Computer Aided Manufacturing	3
181-505	Robotics	2
183-234	Computer Assisted Design and Drafting	2

Option 2

300-X49	Cooperative Education Program in Liberal Studies or	
354-475	Applied Mathematics Internship or	
355-X49	Applied Mathematics: Cooperative Education Internship	3

Computer Systems Integration Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530	Statistical Methods	3
354-531	Design of Experiments I	2
354-532	Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331	Probability and Mathematical Statistics I	3
354-332	Probability and Mathematical Statistics II	3
354-535	Applied Stochastic Processes I	2
354-536	Applied Stochastic Processes II	2

Computer Language

Select 6 credits from the following:

354-145	Computer Science II	3
354-240	FORTRAN Programming	3
354-241	Assembly Language Programming	3
354-342	Survey of Programming Languages	3

Computer Methods

Select 12 credits from the following:

354-341	Data Structures	3
354-343	Mathematical Foundations of Computer Graphics	3
354-441	Computer Organization	3
354-442	Systems Programming	3
354-446	Numerical Analysis I	3
354-447	Numerical Analysis II	3
354-448	Software Engineering	3

► Computer Systems Integration Concentration Requirements 24 credits

184-270	Circuit Analysis	4
184-371	Solid State Electronics	3
184-473	Digital Logic and Switching	3
184-542	Computer Applications in Electronics	3
184-574	Microprocessor Fundamentals	3
184-575	Microprocessor Interfacing	3
372-282	University Physics II	5

Food Production Quality Control Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530 Statistical Methods	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331 Probability and Mathematical Statistics I	3
354-332 Probability and Mathematical Statistics II	3
354-535 Applied Stochastic Processes I	2
354-536 Applied Stochastic Processes II	2

Computer Language

Select 6 credits from the following:

354-145 Computer Science II	3
354-240 FORTRAN Programming	3
354-241 Assembly Language Programming	3
354-246 Computer Programming – COBOL	3
354-342 Survey of Programming Languages	3

Computer Methods

Select 12 credits from the following:

354-341 Data Structures	3
354-343 Mathematical Foundations of Computer Graphics	3
354-441 Computer Organization	3
354-442 Systems Programming	3
354-446 Numerical Analysis I	3
354-447 Numerical Analysis II	3
354-448 Software Engineering	3

► Food Production Quality Control Concentration Requirements 27 credits

150-520 Quality Assurance	3
184-551 Introduction to Microprocessors	3
308-306 General Microbiology	4
308-506 Food Microbiology	3
311-136 College Chemistry II	5
311-531 Quantitative Analysis	3
311-535 Instrumental Methods of Analysis	3

Concentration Selectives

Select 3 credits from the following:

150-505 Product and Inventory Control	3
181-102 Manufacturing Materials and Processes I	3
181-280 Packaging Fundamentals	2
181-380 Consumer Packaging Systems	3
229-212 Nutrition	3
229-240 Food Science	4
229-638 Experimental Foods	3
229-650 Food Processing	3
300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	3
308-332 Genetics and	
308-333 Genetics Laboratory	3
311-515 Food Chemistry	3

Industrial Management Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530 Statistical Methods	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331 Probability and Mathematical Statistics I	3
354-332 Probability and Mathematical Statistics II	3
354-535 Applied Stochastic Processes I	2
354-536 Applied Stochastic Processes II	2

Computer Language

Select 6 credits from the following:

354-145 Computer Science II	3
354-240 FORTRAN Programming	3
354-241 Assembly Language Programming	3
354-246 Computer Programming – COBOL	3
354-342 Survey of Programming Languages	3

Computer Methods

Select 12 credits from the following:

354-341 Data Structures	3
354-343 Mathematical Foundations of Computer Graphics	3
354-441 Computer Organization	3
354-442 Systems Programming	3
354-446 Numerical Analysis I	3
354-447 Numerical Analysis II	3
354-448 Software Engineering	3

► Industrial Management Concentration Requirements 22 credits

150-200 Production/Operations Management	3
150-500 Engineering Economy	2
150-505 Product and Inventory Control	3
150-520 Quality Assurance	3
160-206 Introduction to Financial Accounting	3
160-410 Manufacturing Cost Analysis	3

Select 5 credits from:

3XX-XXX Any Biology, Chemistry and/or Physics	5
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Mechanical Design Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530 Statistical Methods	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331 Probability and Mathematical Statistics I	3
354-332 Probability and Mathematical Statistics II	3
354-535 Applied Stochastic Processes I	2
354-536 Applied Stochastic Processes II	2

Computer Language

Select 6 credits from the following:

354-145 Computer Science II	3
354-240 FORTRAN Programming	3
354-241 Assembly Language Programming	3
354-246 Computer Programming – COBOL	3
354-342 Survey of Programming Languages	3

Computer Methods

Select 12 credits from the following:

354-341 Data Structures	3
354-343 Mathematical Foundations of Computer Graphics	3
354-441 Computer Organization	3
354-442 Systems Programming	3
354-448 Software Engineering	3

► Mechanical Design Concentration Requirements 23 credits

183-110 Drafting	2
183-290 Mechanics of Solids I	3
183-291 Mechanics of Solids II	3
183-532 Mechanical Design	4
183-592 Mechanics of Machinery I	3
183-593 Mechanics of Machinery II	3
372-282 University Physics II	5

Mechanical Design – Drafting Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530 Statistical Methods	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331 Probability and Mathematical Statistics I	3
354-332 Probability and Mathematical Statistics II	3
354-535 Applied Stochastic Processes I	2
354-536 Applied Stochastic Processes II	2

Computer Language

Select 6 credits from the following:

354-145 Computer Science II	3
354-240 FORTRAN Programming	3
354-241 Assembly Language Programming	3
354-246 Computer Programming – COBOL	3
354-342 Survey of Programming Languages	3

Computer Methods

Select 12 credits from the following:

354-341 Data Structures	3
354-343 Mathematical Foundations of Computer Graphics	3
354-441 Computer Organization	3
354-442 Systems Programming	3
354-446 Numerical Analysis I	3
354-447 Numerical Analysis II	3
354-448 Software Engineering	3

► Mechanical Design – Drafting Concentration Requirements 26 credits

183-110 Drafting	2
183-212 Descriptive Geometry	3
183-234 Computer Assisted Design and Drafting	2
183-290 Mechanics of Solids I or	
372-531 Statics	3
183-592 Mechanics of Machinery I or	
372-533 Dynamics	3
311-135 College Chemistry I	5
372-282 University Physics II	5

Concentration Selectives

Select at least 3 credits from the following:

183-532 Mechanical Design	4
183-537 Mechanical Design Drafting	2
183-593 Mechanics of Machinery II	3
183-636 Computer Assisted Design Problems	2
184-270 Circuit Analysis	4
184-280 Networks	4
184-371 Solid State Electronics	3
184-542 Computer Applications in Electronics	3
184-583 Fundamentals of Control	4
300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	3

Numerical Control Concentration**Statistical Methods**

Select 3 credits from the following:

354-530	Statistical Methods	3
354-531	Design of Experiments I	2
354-532	Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331	Probability and Mathematical Statistics I	3
354-332	Probability and Mathematical Statistics II	3
354-535	Applied Stochastic Processes I	2
354-536	Applied Stochastic Processes II	2

Computer Language

Select 6 credits from the following:

354-145	Computer Science II	3
354-240	FORTRAN Programming	3
354-241	Assembly Language Programming	3
354-246	Computer Programming - COBOL	3
354-342	Survey of Programming Languages	3

Computer Methods

Select 12 credits from the following:

354-341	Data Structures	3
354-343	Mathematical Foundations of Computer Graphics	3
354-441	Computer Organization	3
354-442	Systems Programming	3
354-446	Numerical Analysis I	3
354-447	Numerical Analysis II	3
354-448	Software Engineering	3

► Numerical Control Concentration Requirements**22 credits**

150-520	Quality Assurance	3
181-102	Manufacturing Materials and Processes I	3
181-504	Computer Aided Manufacturing	3
181-505	Robotics	2
184-551	Introduction to Microprocessors	3
372-282	University Physics II	5

Concentration Selectives

Select at least 3 credits from the following:

181-280	Packaging Fundamentals	2
181-380	Consumer Packaging Systems	3
181-510	Manufacturing Systems	3
181-515	Metallurgy	3
181-537	Numerical Control in Manufacturing	3
300-X49	Cooperative Education Program in Liberal Studies or	
354-475	Applied Mathematics Internship or	
355-X49	Applied Mathematics: Cooperative Education Internship	3
311-541	Chemistry of Materials	4

Scientific Programming ConcentrationSelect the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:**Statistical Methods**

Select 3 credits from the following:

354-530	Statistical Methods	3
354-531	Design of Experiments I	2
354-532	Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331	Probability and Mathematical Statistics I	3
354-332	Probability and Mathematical Statistics II	3
354-535	Applied Stochastic Processes I	2
354-536	Applied Stochastic Processes II	2

Computer Language

Select 9 credits from the following:

354-145	Computer Science II	3
354-240	FORTRAN Programming	3
354-241	Assembly Language Programming	3
354-246	Computer Programming - COBOL	3
354-342	Survey of Programming Languages	3

Computer Methods

Select 9 credits from the following:

354-341	Data Structures	3
354-343	Mathematical Foundations of Computer Graphics	3
354-441	Computer Organization	3
354-442	Systems Programming	3
354-448	Software Engineering	3
354-545	Image Processing	3

► Scientific Programming Concentration Requirements**23 credits**

354-446	Numerical Analysis I	3
354-447	Numerical Analysis II	3
372-282	University Physics II	5
372-531	Statics	3
372-533	Dynamics	3

Concentration Selectives

Select 6 credits from either option:

Option 1

184-280	Networks	4
184-473	Digital Logic and Switching	3
372-380	Electromagnetic Fields	3

Option 2

300-X49	Cooperative Education Program in Liberal Studies or	
354-475	Applied Mathematics Internship or	
355-X49	Applied Mathematics: Cooperative Education Internship	6

Software Development Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies—page 26:

Statistical Methods

Select 3 credits from the following:

354-530 Statistical Methods	3
354-531 Design of Experiments I	2
354-532 Design of Experiments II	2

Statistical Theory

Select 3 credits from the following:

354-331 Probability and Mathematical Statistics I	3
354-332 Probability and Mathematical Statistics II	3

Computer Language

Select 9 credits from the following:

354-145 Computer Science II	3
354-240 FORTRAN Programming	3
354-241 Assembly Language Programming	3
354-246 Computer Programming – COBOL	3
354-342 Survey of Programming Languages	3

Computer Methods

Select 6 credits from the following:

354-341 Data Structures	3
354-441 Computer Organization	3
354-442 Systems Programming	3
354-446 Numerical Analysis I	3
354-447 Numerical Analysis II	3
354-545 Image Processing	3

Select 6 additional credits from the areas above.

► Software Development Concentration Requirements 24 credits

326-515 Technical Writing	3
354-343 Mathematical Foundations of Computer Graphics	3
354-448 Software Engineering	3
354-XXX Advanced Software Engineering	3

Select 6 credits from:

3XX-XXX Any Biology, Chemistry and/or Physics	6
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Concentration Selectives

Select 6 credits from one programming application option:

Option 1

354-246 Computer Programming – COBOL	3
354-443 Database Systems Manipulation and Design	3
354-342 Survey of Programming Languages	3

Option 2

300-X49 Cooperative Education Program in Liberal Studies or	
354-475 Applied Mathematics Internship or	
355-X49 Applied Mathematics: Cooperative Education Internship	6

ART

Introduction

The Bachelor of Fine Arts in Art offers study in Studio Art or concentrations in Industrial Design, Interior Design or Graphic Design. The curriculum provides students with experiences in studio work, art history, professional studies and general studies. An understanding of liberal studies, art history, the present status of art and design, and an inquisitive attitude toward experimentation in problem-solving will move students to a professional level in studio art or in their selected concentration. Experienced art and design faculty ensure current course content and serve as advisers to the students in respective areas. A required midprogram review offers students an overview of their progress. Extensive library resources and the art and design department visual resource center are significant assets. Foreign study opportunities allow students variety in cultural experiences. Internship and cooperative education opportunities supplement educational theory and practice in a setting with working professionals. A 2.5 grade point average and a 2.0 or better in art and design department courses is required to complete this Bachelor of Fine Arts degree. Those who choose major studies in Studio Art must present an exhibition of their work during their senior year. All students who concentrate in design must present a portfolio of their work in the final semester.

General Requirements

Bachelor of Fine Arts Degree

Total for graduation	127-129 credits
General Education	42 credits
Major Studies	16 credits
Concentrations or Studio Art	69-71 credits

Definitions

UW-Stout offers two concentrations that are similar in name. "Interior Design" (B.F.A. in Art) and "Interior Decorating" (B.S. in Retail Merchandising and Management) are different, and offer students a choice of two professional areas.

Interior designers produce functional and meaningful interior environments (*residential, commercial and public spaces*) by integrating human factors, art and design concepts, space planning, knowledge of architecture, building construction, codes, specifications, materials and furnishings.

The interior design concentration prepares graduates to solve interior design problems, including the initial design and remodeling of structures as part of an architectural design team or as a consultant.

Interior decorators furnish and accessorize existing or planned spaces using knowledge of color, fabrications, interior decoratives and furniture, fixtures and equipment to accommodate each client's individual taste.

The interior decorating concentration in the Retail Merchandising and Management program, page 64, provides graduates with business and decorating skills to enter the marketplace in retailing, interiors studios, or their own business, including consulting.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 Credits

326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II	3
391-100	Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including creative arts (excluding courses with a 304 prefix), history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 Credits

G. Technology

2 Credits

H. General Education Electives

2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

16 credits required

304-100	Drawing I	3
304-101	Fundamentals of Design	3
304-102	Introduction to Art and Design	1
304-500	Drawing II	3
304-523	Survey of Art – Ancient through Medieval	3
304-524	Survey of Art – Renaissance through 20th Century	3

Studio Art

71 credits required

The student may complete the following sequence of courses in studio art to complete the art degree without concentration or select a concentration in graphic design, industrial design, or interior design.

Studio and Related Requirements

Note: Two "advanced" studios may be deleted (except Drawing)

120-504	Elementary Photography	2
304-145	The Practice of Art	2
304-500	Drawing II (repeated)	3
304-501	Life Drawing I	3
304-502	Life Drawing II or	
304-509	Painting I	3
304-510	Painting II	3
304-511	Sculpture I	3
304-512	Sculpture II	3
304-513	Ceramics I	3
304-514	Ceramics II	3
304-515	Art Metal I	3
304-516	Art Metal II	3
304-517	Printmaking I	3
304-518	Printmaking II	3
304-545	Senior Seminar	1
304-607	Aesthetics (Senior Year)	3
304-XXX	Three additional Art History courses (except 304-202)	9
one must be a modern art history.		

Studio and Related Selectives (24 credits)

Nine additional advanced credits must be taken in one of these areas: painting, ceramics, sculpture, art metals, drawing or printmaking to establish a studio focus.

Concentrations

Graphic Design

69 credits

304-210	Letter Form Design	3
304-220	Computer Imagery	3
304-300	Design Theory and Methods	3
304-305	Presentation Techniques	3
304-310	Graphic Design I	3
304-360	Graphic Design II	3
304-480	Senior Project-Graphic Design	4
304-501	Life Drawing I	3
304-503	Design	3
304-517	Printmaking I (serigraphy recommended)	3

Design Studio

Choose one of the following:

304-380	Signage and Exhibition Design	3
304-410	Product and Packaging Graphics	3

and one of the following:

304-382	Information Design	3
304-384	Advertising Design	3
304-386	Publication Design	3
304-388	Typographic Design	3

XXX-XXX Other courses approved by program director.

Art Studio

Select 13 credits from the following:

304-500	Drawing II	3
304-502	Life Drawing II	3
304-509	Painting I	3
304-510	Painting II	3
304-511	Sculpture I	3
304-512	Sculpture II	3
304-513	Ceramics I	3
304-514	Ceramics II	3
304-515	Art Metal I	3
304-516	Art Metal II	3
304-518	Printmaking II	3

XXX-XXX Other courses approved by program director.

Additional Art History Requirements

304-319	Evolution of Design	3
304-XXX	Any Art History (except 304-202)	3

Technical

120-504	Elementary Photography	2
130-140	Graphic Arts	2
130-251	Composition	3
181-280	Packaging Fundamentals	2

Select 4 credits from the following:

120-605	Advanced Photography	2
120-630	Audio/Film Production Fundamentals	3
120-645	Color Photography	2
130-355	Line and Halftone Photography	2
130-366	Image Transfer	3
130-509	Business Applications in Desktop Publishing	1
130-545	Publications Production	2
160-330	Principles of Marketing	3
160-370	Principles of Advertising	3
479-579	Public Relations	2

XXX-XXX Other courses approved by program director.

Industrial Design 69 credits**Studio and Related Requirements**

304-300	Design Theory and Methods	3
304-305	Presentation Techniques	3
304-310	Graphic Design I	3
304-330	Industrial Design I	3
304-335	Product Form Design	3
304-340	Industrial Design II	3
304-360	Graphic Design II	3
304-405	Advanced Presentation Techniques for Designers	3
304-430	Industrial Design III	4
304-440	Industrial Design IV	4
304-503	Design	3
304-511	Sculpture I	3

Art Studio

Select 12 credits from the following:

304-500	Drawing II	3
304-501	Life Drawing I	3
304-509	Painting I	3
304-510	Painting II	3
304-512	Sculpture II	3
304-513	Ceramics I	3
304-514	Ceramics II	3
304-515	Art Metal I	3
304-516	Art Metal II	3
304-517	Printmaking I	3
304-518	Printmaking II	3
304-XXX	Other courses approved by program director	3

Additional Art History

304-319	Evolution of Design	3
304-XXX	Any Art History (except 304-202)	3

Technical

181-102	Manufacturing Materials and Processes I	3
181-103	Manufacturing Materials and Processes II	3
183-120	Design Drafting	3
183-234	Computer Assisted Design and Drafting	2
XXX-XXX	Other courses approved by program director	2-3

Interior Design 69 credits**Studio and Related Requirements**

304-204	Interior Design	3
304-300	Design Theory and Methods	3
304-304	Interior Design II	3
304-305	Presentation Techniques	3
304-314	Interior Design Procedures and Specifications	3
304-320	Interior Furniture Design	3
304-405	Advanced Presentation Techniques for Designers	3
304-415	Environmental Interior Design I	3
304-416	Environmental Interior Design II	4
304-503	Design	3
304-511	Sculpture I or	3
304-513	Ceramics I	3
304-532	Economics of House Furnishing	3

Art Studio

Select 13 credits from the following:

304-500	Drawing II	3
304-501	Life Drawing I	3
304-509	Painting I	3
304-510	Painting II	3
304-511	Sculpture I	3
304-512	Sculpture II	3
304-513	Ceramics I	3
304-514	Ceramics II	3
304-515	Art Metal I	3
304-516	Art Metal II	3
304-517	Printmaking I	3
304-518	Printmaking II	3
XXX-XXX	Other courses approved by program director	3

Additional Art History

304-319	Evolution of Design	3
304-533	Period Furnishings	3

Technical

182-131	Architectural Graphics	3
182-170	Light Construction Methods	2
182-233	Architectural Design I	3
214-140	Textiles	3

Select one course from the following:

182-335	Architectural Design II	3
183-234	Computer Assisted Design and Drafting	2
245-436	Commercial and Residential Lighting	2
XXX-XXX	Other courses approved by program director	

ART EDUCATION

Introduction

The Art Education program provides students with experience in liberal studies, art history, studio art and professional education. It is a Bachelor of Science degree program that prepares students for certification by the Department of Public Instruction for teaching art in elementary and secondary schools. An understanding of general studies, art history, the present status of art and the educational environment, with an inquisitive approach toward problem solving, will move students to a professional level. Experienced art and design faculty ensure current course content and serve as advisers for students. Preteaching observation, presented at the sophomore level, provides students an early involvement in elementary and secondary schools. A required mid-program review offers students an overview of their progress. Extensive library resources and the art and design department visual resource center are significant assets. Foreign study opportunities allow students variety in cultural experiences. An optional 11 credit additional concentration in Adaptive Education is available.

General Requirements

Bachelor of Science Degree

Total for graduation	135 credits
General Education	42 credits
Major Studies	93 credits

A minimum overall grade point average of 2.75 is required for entry into student teaching and for graduation. Students must achieve a minimum grade of "C" (2.0) or better in each class and a 2.75 grade point average in all art, art education and education courses.

Art Education majors must present an exhibition of their work during the senior year, but not during the student teaching semester.

* A grade point of 2.0 or better is required.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 Credits

326-101 Freshman English—Composition* or	
326-111 Freshman English—Honors I*	3
326-102 Freshman English—Reading and Related Writing* or	
326-112 Freshman English—Honors II*	3
391-100 Fundamentals of Speech*	2

B. Analytic Reasoning

6 Credits

355-XXX Any math from the approved General Education list	4
Remaining courses must be from areas including math, logic, statistics and computer science.	

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts†

9 Credits

120-504 Elementary Photography	2
326-XXX Any Literature	3

A remaining course must be from one of the following areas: history, music appreciation, performing arts or philosophy. † Either 338-210 Modern World must be taken under this category or 303-220 Cultural Anthropology must be taken under Category E.

E. Social and Behavioral Sciences†

9 Credits

375-210 Government	3
479-110 General Psychology	3

A remaining course must be from one of the following areas: anthropology, economics, geography or sociology. † See previous note under category D.

F. Natural Sciences (with Lab)

4 Credits

Choose a biology course, and either a chemistry or physics course.

G. Technology

2 Credits

H. General Education Electives

2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

93 credits required

Art Requirements

33 credits

304-100 Drawing I	3
304-101 Fundamentals of Design	3
304-145 The Practice of Art	2
304-500 Drawing II	3
304-501 Life Drawing I	3
304-509 Painting I	3
304-511 Sculpture I	3
304-513 Ceramics I	3
304-515 Art Metal I	3
304-517 Printmaking I	3
304-545 Senior Seminar	1
304-607 Aesthetics	3

Selective Art and Design Studios

9 credits

Select studio courses from art metals, ceramics, drawing, life drawing, painting, printmaking, sculpture—3 of the 9 credits may be graphic, industrial or interior design courses.

Art History Requirements

12 credits

304-523 Survey of Art—Ancient through Medieval	3
304-524 Survey of Art—Renaissance through 20th Century	3
Select 2 additional art history courses; one must be a 20th century art course.	

Education Requirements

39 credits

305-208 Preteaching Observation (Sophomore Year)	2
305-322 Art Education—Elementary	3
305-323 Art Education—Secondary	3
305-408 Student Teaching in the Elementary School—Art	8
305-409 Student Teaching in the Secondary School—Art	8
421-303 Educational Psychology	3
421-312 Introduction to Curriculum, Methods and Assessment	2
421-326 Foundations of Education	2
421-536 Multiculturalism: Issues and Perspectives	2
421-576 Field Experience—Cross Cultural Experience	1
421-582 Secondary Reading and Language Development	2
431-630 Mainstreaming Students With Exceptional Educational Needs	3

CONSTRUCTION

Introduction

The Construction program is designed to prepare individuals for a variety of responsible positions in the field of construction.

Broad objectives of the program include developing fundamental knowledge of science, engineering, business, management, architecture and construction principles; applying scientific, technological and management principles to the solution of construction problems; and integrating diverse scientific and technical areas as they impact on the construction field.

General Requirements

Bachelor of Science Degree

Total for graduation	129 credits
General Education	46 credits
Major Studies	74 credits
Writing and Science Preparation	6 credits
Electives	3 credits

Program Requirements

General Education

46 credits required

A. Communication Skills

8 Credits

326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

355-153 Calculus I or	
355-156 Calculus and Analytic Geometry I	4-5
<i>Remaining courses must be from areas including math, logic, statistics and computer science.</i>	

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

320-201 General Economics or	
320-210 Principles of Economics I	3
375-210 Government	3
387-110 Introductory Sociology or	
479-110 General Psychology	3

F. Natural Sciences (with Lab)

10 Credits

Select a group of physics courses:

Group 1

372-241 College Physics I and	
372-242 College Physics II	10

Group 2

372-281 University Physics I and	
372-282 University Physics II	10

G. Technology

2 Credits

Major Studies

74 credits required

Business and Management

18 credits

150-500 Engineering Economy	3
150-600 Organizational Leadership	3
160-200 Financial-Managerial Accounting – Industrial Technology or	
160-206 Introduction to Financial Accounting	3
160-304 Principles of Management	3
160-330 Principles of Marketing	3
479-582 Human Resource Management	3

Architecture, Engineering and Construction

56 credits

140-588 Construction Safety	2
160-573 Legal Aspects of Construction	3
182-131 Architectural Graphics	3
182-170 Light Construction Methods	2
182-175 Construction Materials	1
182-190 Orientation to Construction Industry	1
182-237 Architectural Technology	3
182-270 Heavy Construction Methods and Equipment	3
182-273 Concrete and Masonry Technology	3
182-357 Site Engineering	3
182-538 Contract Requirements and Specifications	3
182-552 Environmental Systems – HVAC	3
182-553 Environmental Systems – Plumbing and Electrical	3
182-558 Structural Systems – Wood and Steel	3
182-559 Structural Systems – Concrete and Masonry	3
182-570 Construction Estimating I	3
182-571 Construction Estimating II	2
182-572 Management of Construction	3
182-670 Project Scheduling and Cost Control	3
182-X98 Field Experience or	
182-X49 Cooperative Education Experience	2
372-321 Statics and Strength of Materials	4

Writing and Science Preparation

6 credits required

326-320 Business Writing or	
326-515 Technical Writing	3
372-257 Introduction to Geology and Soil Mechanics	3

Electives

3 credits required

DIETETICS

Introduction

This program prepares graduates for careers in clinical and administrative dietetics, community and public health nutrition, corporate wellness, and nutrition education as well as for opportunities in the food services, business and industry.

The program is approved by the American Dietetic Association for meeting academic requirements leading toward credentials as a dietitian.

The dietetic student receives an education with an emphasis on the following sciences: physical and biological; behavioral and social; communication and professional. With this background, the student can move toward the community and business management of nutritional health, food service and dietetic practices.

General Requirements

Bachelor of Science Degree

Total for graduation	124-125 credits
General Education	50-51 credits
Major Studies	68 credits
Electives	6 credits

Students must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

Supervised work experience must be obtained through participation in the Field Experience program.

Students must attain a grade point of 2.0 or higher in each of the in General Education and Major Studies courses. (All transferred credits will meet this program requirement.) A 2.75 or greater grade point average is required for graduation. A minimum grade of B (3.0) is required in 229-212 Nutrition. Courses marked with an asterisk (*) are repeatable only once, and require a cumulative grade point average of 2.50.

Program Requirements

General Education

50-51 credits required

A. Communication Skills

8 Credits

326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning

6-7 Credits

354-130 Elementary Statistics or	
354-530 Statistical Methods	2-3
355-120 Introductory College Mathematics I (or more advanced)	4

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

12 Credits

320-210 Principles of Economics I	3
375-210 Government or	
387-110 Introductory Sociology	3
479-110 General Psychology	3

F. Natural Sciences (with Lab)

9 Credits

308-134 Physiology and Anatomy for Health Sciences*	4
311-125 Principles of Chemistry for Health Sciences* or	
311-135 College Chemistry I*	5

G. Technology

2 Credits

H. General Education Electives

2 Credits

Course must come from categories A, B, D, E or F.

Major Studies

68 credits required

Sciences

15 Credits

308-306 General Microbiology	4
308-362 Advanced Physiology	3
311-201 Organic Chemistry Lecture	3
311-203 Organic Chemistry Laboratory	1
311-511 Biochemistry	4

Nutrition

15 credits

229-212 Nutrition*	3
229-380 Community Nutrition	3
229-407 Medical Terminology	2
229-410 Advanced Nutrition	3
229-618 Diet Therapy	4

Nutrition Education and Communication

8 credits

229-606 Nutrition Education	3
242-201 Presentation Strategies For Home Economics	2
326-515 Technical Writing or	
326-546 Research Reporting	3

Food and Food Science

10 credits

229-240 Food Science	4
229-638 Experimental Foods	3
229-661 Multicultural Aspects of Food and Nutrition Patterns	3

Food Service Administration/Management

17 credits

160-304 Principles of Management	3
229-308 Management of Food Production	3
245-311 Quantity Food Production	4
245-501 Food Service Administration	3
245-521 Food Service Equipment	2
354-140 Computer Concepts or	
354-141 Computer Programming – BASIC	2

Career Awareness

3 credits

229-101 Dietetics as a Profession	1
229-397 Field Experience	2

Electives

6 credits required

EARLY CHILDHOOD

Introduction

The curriculum in the Early Childhood program is designed to prepare resourceful, creative and competent graduates to work in settings with young children and their families. The certification concentration, which emphasizes theory and practice, meets the requirements for birth through grade 3 teaching certification for the State of Wisconsin. The general concentration, which strengthens knowledge in child development and family studies, prepares students whose career goals are to assume positions in the field of early childhood that do not require certification. Academic course work is enriched by involvement with children and families beginning in the freshman year, with observation/participation experiences in UW-Stout's Child and Family Study Center. Graduates are employed as preschool, kindergarten and primary teachers, and as administrators of child care centers, curriculum specialists, and resource and referral specialists within corporations and the public sector.

General Requirements

Bachelor of Science Degree

Total for graduation	124-129 credits
General Education	43 credits
Major Studies	81-86 credits

A minimum cumulative grade point average of 2.75 is required for graduation for the certification concentration and 2.5 for the general concentration.

An overall grade point average of at least 2.75 is required for acceptance into the certification concentration.

Students must student teach at three levels: infant/toddler/preschool, kindergarten and primary.

Students must demonstrate proficiency in American Red Cross First Aid procedures, either by verifying current certification with their adviser, or by satisfactory completion of 466-340 ARC Standard First Aid and Personal Safety.

Students must demonstrate proficiency in music fundamentals by taking 360-101 Class Piano or by testing out of the course.

All students are required to take the Preprofessional Skills Test (PPST) in their first semester in the program. Students must pass all three sections of the PPST before they will be admitted to the certification concentration.

* Required courses with a grade point of 2.0 (C) or better. Courses in which a student earns less than the required 2.0 must be retaken and at least a 2.0 earned prior to student teaching.

** Required major courses with grade point of 2.67 (B-) or better. Courses in which a student earns less than the required 2.67 must be retaken and at least a 2.67 earned prior to student teaching.

Program Requirements

General Education

43 credits required

A. Communication Skills

8 Credits

326-101	Freshman English – Composition* or	
326-111	Freshman English – Honors I*	3
326-102	Freshman English – Reading and Related Writing* or	
326-112	Freshman English – Honors II*	3
391-100	Fundamentals of Speech*	2

B. Analytic Reasoning

7 Credits

355-118	Concepts of Mathematics (or more advanced)*	4
365-301	Introduction to Logical Thinking	3

C. Health and Physical Education

2 Credits

229-202	Nutrition for Healthy Living	2
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D. Humanities and the Arts†

9 Credits

326-300	Children's Literature*	3
360-101	Class Piano*	1
<i>Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.</i>		

† Either 338-210 Modern World must be taken under this category or 303-220 Cultural Anthropology must be taken under Category E.

E. Social and Behavioral Sciences†

9 Credits

375-210	Government	3
479-110	General Psychology*	3
<i>Remaining course must be from one of the following areas: anthropology, economics, geography or sociology.</i>		

† See previous note under Category D.

F. Natural Sciences (with Lab)

5 Credits

308-XXX	Any approved biology course with an ecological focus*	
311-XXX	Any approved chemistry* or	
372-XXX	Any approved physics*	

G. Technology

2 Credits

H. General Education Electives

1 Credits

Course must come from categories A, B, D, E or F.

Major Studies

81-86 credits required

Child Development and Family Studies Core 18 credits

212-124	Human Development: Early Child**	3
212-250	Individual and Family Relations*	3
212-264	Child Guidance*	3
212-401	Advanced Child Development and Guidance*	1
212-507	Parent Education*	2
212-524	Human Development: Middle Childhood and Adolescence*	3
212-615	Family Stress, Coping and Adaptation*	1
212-638	Child Abuse and Neglect*	2

Early Childhood Professional Core 18 credits

212-100	Introduction to Early Childhood Programs*	1
212-303	Developmentally Appropriate Practice: Infant-Toddler*	2
212-307	Developmentally Appropriate Practice: Preschool*	4
212-309	Developmentally Appropriate Practice: Kindergarten, Primary*	2
212-665	Administration of Early Childhood Programs*	2
229-236	Nutrition for Young Children*	1
326-537	Technical Writing Practicum	1-3
360-206	Music for the Young Child*	2
467-265	Physical Activities for Young Children*	2

Concentrations

The Early Childhood program provides a broad background in the profession. Students who wish to specialize may choose from the following concentrations:

Certification Concentration 50 credits

Curriculum Block (16 credits)

212-410	Early Childhood Curriculum: Science*	3
212-411	Early Childhood Curriculum: Math*	3
212-412	Early Childhood Curriculum: Social Studies*	3
212-413	Early Childhood Curriculum: Reading and Language Arts	5
212-414	Early Childhood Clinical Experience: Integrated Curriculum*	2

Student Teaching (18 credits)

212-480	Student Teaching: Infant, Toddler, Preschool*	6
212-493	Student Teaching: Kindergarten*	6
212-494	Student Teaching: Primary*	6

Education Courses (16 credits)

421-303	Educational Psychology*	3
421-312	Introduction to Curriculum, Methods and Assessment*	2
421-326	Foundations of Education*	2
421-536	Multiculturalism: Issues and Perspectives*	2
421-576	Field Experience – Cross Cultural Experience *	1
421-580	Reading and Language Arts in Elementary Education*	2
421-581	Preclinical: Elementary Education – Language Arts Reading*	1
431-630	Mainstreaming Students with Exceptional Educational Needs* ...	3

General Concentration 45 credits

212-354	Skill Training*	3
212-355	Lifespan Human Development*	3
212-357	Lifespan Sexuality*	3
212-497	Field Experience*	2
212-525	Divorced, Single Parent and Remarried Families*	2
212-535	Seminar on Self-Growth	2
212-595	Special Topics: Human Development*	2
212-5XX	Intergenerational Program Administration*	2
212-624	Advanced Child Study*	3
212-654	Workplace and Family*	2
212-685	Seminar: The Culturally Distinct Child and Family*	2
212-686	Experience: The Culturally Distinct Child and Family	1
229-404	Food Service for Children*	2
242-201	Presentation Strategies*	2
479-451	Children's Learning*	3

Choose 11 credits from the approved list of courses to complete the professional component.

Elementary Education Certification

Cooperative Program with UW-Eau Claire for UW-Stout students who want to add on certification for the elementary grades. This option adds approximately one year to a student's program.

FAMILY AND CONSUMER EDUCATIONAL SERVICES

Introduction

The Bachelor of Science degree in Family and Consumer Educational Services (formerly *Home Economics Educational Services*) provides career options for a variety of educational settings. The K-12 Home Economics Education/Family Life Certification concentration prepares students to teach in elementary, middle, junior high and high school settings across the United States. The Consumer Affairs concentration prepares students as credit and financial advisers and for consumer relation careers in business and agency settings. The Family/Extension concentration prepares graduates as extension agents and 4-H youth agents or to teach family life education in community settings. Each concentration provides a senior level practicum/field experience in an educational, community or business setting.

General Requirements

Bachelor of Science Degree

Total for graduation	124-127 credits
General Education	45 credits
Major Studies	19 credits
Concentration	60-63 credits

Program Requirements

General Education

45 credits required

A. Communication Skills

8 Credits

326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

355-XXX Any Mathematics	4
Remaining courses must be from areas including math, logic, statistics and computer science.	

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

326-XXX Any Literature	1-3
338-210 Modern World	3
XXX-XXX Any creative or performing arts	1-3
Remaining courses may be from any of the humanities and the arts.	

E. Social and Behavioral Sciences

9 Credits

320-210 Principles of Economics I	3
375-210 Government	3
479-110 General Psychology	3

F. Natural Sciences (with Lab)

9 Credits

308-132 Physiology and Anatomy	4
311-115 General Chemistry or	
311-125 Principles of Chemistry for Health Sciences	5

G. Technology

2 Credits

Major Studies

19 credits required

212-250 Individual and Family Relationships	3
212-654 The Workplace and the Family	2
229-124 Foods	4
229-212 Nutrition	3
242-101 Experiential Learning in Home Economics Educational Services	1
242-201 Presentation Strategies for Home Economics	2
245-360 Consumer Economics	3
245-663 Consumer Law	1

Concentrations

60-63 credits required

K-12 Home Economics Education/Family Life Certification

63 Credits

2.75 overall GPA required

199-502 Principles of Vocational, Technical and Adult Education	2
212-124 Child Development I	4
212-235 Child Development Laboratory	1
212-350 Dynamics of Family Development	3
212-507 Parent Education/Involvement	2
214-140 Textiles	3
242-301 Home Economics Curriculum	3
242-341 Clinical Experience in Schools	1
242-448 Student Teaching – Home Economics Education/Family Life	16
242-460 Home Economics/Family Life Education	2
242-620 Vocational Programs in Home Economics	2
245-250 Family Housing	3
421-303 Educational Psychology	3
421-312 Introduction to Curriculum, Methods and Assessment	2
421-326 Foundations of Education	2
421-536 Multiculturalism: Issues and Perspectives	2
421-576 Field Experience – Cross Cultural Experience	1
421-582 Secondary Reading and Language Development	2
431-630 Mainstreaming Students With Exceptional Educational Needs	3

Select 3 credits from the following:

212-615 Family Stress, Coping and Adaptation	1
229-308 Management of Food Production	3
229-542 Advanced Foods	3
229-661 Multicultural Aspects of Food and Nutrition Patterns	3
245-676 Family Finance	2

Select 3 credits from the following:

214-109 Applied Design for Family Living	2
214-112 Fashion Forecasting	3
214-120 Introduction to Apparel, Textiles and Merchandising	2
214-166 Apparel Construction	3
214-227 Basic Merchandising	3
214-330 Home Furnishings Merchandising	2
214-400 Self-Presentation in Business	1
214-617 Social/Psychological Aspects of Clothing	3

Students pursuing the degree with a concentration in K-12 Home Economics Education/Family Life Certification must have an overall grade point average of 2.75 for graduation; demonstrate proficiency in mathematics, reading and writing; and achieve passing scores on the Preprofessional Skills Test.

Family/Extension Education**60 Credits****2.5 overall GPA required**

212-124	Child Development I	4
212-350	Dynamics of Family Development	3
212-355	Lifespan Human Development	3
242-301	Home Economics Curriculum	3
242-460	Home Economics/Family Life Evaluation	2
242-500	Externship – Home Economics Community Education	4-8
242-630	Concepts of Extension Education or	
242-651	Family Life Education Programs	2
421-303	Educational Psychology	3
421-536	Multiculturalism: Issues and Perspectives	2

Select 20 credits from the following:

212-264	Child Guidance	3
212-430	Human Development: Aging Person	2
212-507	Parent Education/Involvement	2
212-524	Child Development II	3
212-525	Divorced, Single Parent and Remarried Family	2
212-530	Adulthood and the Family	3
212-615	Family Stress, Coping and Adaptation	1
214-140	Textiles	3
214-166	Apparel Construction	3
214-617	Social/Psychological Aspects of Clothing	2
229-380	Community Nutrition	3
229-446	Food Preservation	1
229-542	Advanced Foods	3
229-606	Nutrition Education	3
245-250	Family Housing	3
245-676	Family Finance	2
2XX-XXX	Subject Matter Electives	5

Select 6-8 credits from the following:

150-600	Organizational Leadership	3
199-674	Adult Education	2
242-597	Field Experience	2
326-346	Informational Writing	3
391-204	Techniques of Group Leadership	2
391-554	Television Programming and Performance	3
479-579	Public Relations	2

Electives**4-8 credits required****Consumer Affairs****60 Credits****2.0 overall GPA required**

150-600	Organizational Leadership or	
479-582	Human Resource Management	3
160-206	Introduction to Financial Accounting	3
160-330	Principles of Marketing	3
212-355	Lifespan Human Development	3
245-565	Consumer Aspects of Life Insurance	1
245-566	Consumer Aspects of Health Insurance	1
245-660	Consumer Credit	1
245-662	Consumer Protection	1
245-676	Family Finance	2
245-XXX	Consumer Affairs Field Experience or	
245-X49	Cooperative Education/Internship	1-2
320-215	Principles of Economics II	3
320-325	Economic and Business Statistics	3
326-320	Business Writing or	
326-425	Copy Editing and Preparation or	
326-515	Technical Writing	2-3
326-346	Information Writing	3
365-375	Personal and Professional Ethics	3
391-508	Speech Skills for Business and Industry	2
479-577	Consumer Psychology	3
479-579	Public Relations	2

Select 8 credits from the following:

245-678	Financial Planning for Retirement	2
320-335	Personal Securities Investments	2
320-435	Money, Banking, Financial Markets	3
320-445	Public Finance	3

Select 6 credits from the following:

160-334	Salesmanship and Sales Management	3
160-370	Principles of Advertising	3
160-679	Marketing Research	3

Electives**4-5 credits required**

FOOD SYSTEMS AND TECHNOLOGY

Introduction

The Food Systems and Technology program prepares graduates for careers in the nation's largest business—the food industry. The Food Systems and Management concentration prepares graduates to administer large quantity food production and service facilities everywhere, from cruise ships to hospitals, schools and prisons. Graduates may also manage catering operations or restaurants and delis. Entry-level positions for graduates of the Food Science concentration include assistant food scientist, quality assurance manager, food analyst, food/ingredient development team member, technical representative and government relations officer. The Food Merchandising and Distribution concentration prepares graduates for positions such as supermarket, convenience store or food discount club management; manufacturer sales; food broker; specialty food merchandising; and marketing specialist. The Food Communication concentration prepares graduates for a variety of careers including food styling, magazine or newspaper writing and editing, food and nutrition television reporter, food promotion specialist or food industry home economist.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	34 credits
Concentration	42 credits
Electives	6 credits

The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

Work experience must be obtained through participation in the Field Experience program.

All transfer credits must have a grade point of 2.0 or better. A 2.25 or better grade point average is required for graduation. All major studies courses must have a 1.67 or better grade point average.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 Credits

326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

355-120 Introductory College Mathematics I (or more advanced) **	4
Remaining courses must be from the areas including math, logic, statistics and computer science. (Qualified Food Science concentration students should take 355-152 Calculus for Management and the Social Sciences, or 355-153 Calculus I.)	

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 Credits

Required courses from the major studies component will fulfill these requirements.

G. Technology

2 Credits

H. General Education Electives

2 Credits

Required courses from the major studies component will fulfill these requirements.

Major Studies

34 credits

150-600 Organizational Leadership	3
160-330 Principles of Marketing	3
181-280 Packaging Fundamentals	2
229-111 Food Systems and Technology Futures	1
229-124 Foods or	
229-240 Food Science	4
229-202 Nutrition for Healthy Living or	
229-206 Nutrition in the Hospitality Industry or	
229-212 Nutrition	2-3
229-442 Basic Sensory Analysis	3
229-449 Cooperative Education/Internship or	
229-497 Field Experience	2
229-542 Advanced Foods	3
229-650 Food Processing	3

Select 6-7 credits from the following:

These credits will fulfill the requirements for general education category F. Natural Sciences, and category H. General Education Electives (above).

308-122 Introductory Biology or	
308-134 Physiology and Anatomy for Health Sciences or	
308-142 Botany or	
308-152 Zoology	3-4
308-306 General Microbiology	4
311-115 General Chemistry or	
311-125 Principles of Chemistry for Health Sciences or	
311-135 College Chemistry I	5

Select 2-3 credits from the following:

326-346 Informational Writing or	
326-515 Technical Writing or	
391-508 Speech Skills for Business and Industry	2-3

Concentrations**42 credits required****Food Systems Management****42 credits**

160-206	Introduction to Financial Accounting	3
160-207	Introduction – Corporate and Managerial Accounting	3
160-304	Principles of Management	3
229-260	Menu Planning and Design	2
229-308	Management of Food Production	3
229-5XX	Lifespan Nutrition	3
229-620	Food Styling	3
245-311	Quantity Food Production	4
245-371	Food, Beverage and Labor Cost Controls	3
245-375	Computer Systems for Food Service	2
245-501	Food Service Administration	3
245-521	Food Service Equipment	2
XXX-XXX	Electives*	2

Select 6 credits from the following:

229-610	Food Policy Regulation and Law	3
229-614	Catering or	
245-614	Catering	3
229-661	Multicultural Aspects of Food and Nutrition Patterns	3

*308-206 Food Service Environmental Sanitation (1 credit) may give students sanitation certification from the Educational Foundation of the National Restaurant Association.

Food Science**42 Credits**

150-200	Production/Operations Management	3
150-520	Quality Assurance	3
229-610	Food Policy Regulation and Law	3
229-638	Experimental Foods	3
229-651	Food Engineering	3
308-506	Food Microbiology	3
311-136	College Chemistry II* or	
311-531	Quantitative Analysis	3-5
311-201	Organic Chemistry Lecture	3
311-203	Organic Chemistry Laboratory	1
311-511	Biochemistry	4
311-515	Food Chemistry	3
311-535	Instrumental Methods of Analysis	3
354-530	Statistical Methods**	3
355-153	Calculus I or	
355-154	Calculus II	4
372-211	Introduction to Physics	3

* Selecting 311-136 fulfills requirements of a chemistry minor.

Food Merchandising and Distribution**42 Credits**

160-206	Introduction to Financial Accounting	3
160-334	Salesmanship and Sales Management or	
214-229	Visual Merchandising	3
160-370	Principles of Advertising or	
214-625	Mass Merchandising	2-3
160-438	Industrial Distribution	3
229-225	Special Topics in Food and Nutrition or	
229-525	Special Topics in Food and Nutrition	1-2
229-302	Food and Beverage Distribution Industry	3
229-4XX	Food Distribution Operations and Control	3
229-610	Food Policy Regulation and Law	3
229-620	Food Styling	3
245-311	Quantity Food Production	4
245-501	Food Service Administration	3
245-521	Food Service Equipment	2
479-577	Consumer Psychology	3
XXX-XXX	Electives	2

Select 3 credits from the following:

160-535	Entrepreneurship: Small Business Planning or	
214-631	Service Management Strategies or	
245-371	Food, Beverage and Labor Cost Controls or	
320-215	Principles of Economics II	3

Food Communication**42 Credits**

120-504	Elementary Photography	2
120-XXX	Food Photography	1
130-140	Graphic Arts	2
130-545	Publications Production	2
160-334	Salesmanship and Sales Management	3
160-370	Principles of Advertising	3
160-679	Marketing Research	3
229-525	Special Topics in Food and Nutrition:	
	Recipe Development and Cookbook Writing	1
229-5XX	Lifespan Nutrition	3
229-614	Catering or	
245-614	Catering	3
229-620	Food Styling	3
229-638	Experimental Foods	3
229-661	Multicultural Aspects of Food and Nutrition Patterns	3
229-XXX	Any Food and Nutrition or	
245-XXX	Any Hospitality and Tourism	2-3
326-XXX	Any Journalism	2-3

Advanced speech and advanced writing are required. Take one in the Major Studies component and the other in the concentration.

326-346	Informational Writing or	
326-515	Technical Writing or	
391-508	Speech Skills for Business and Industry	2-3

Select 2-3 credits from the following:

120-XXX	Any Media Technology	2-3
130-XXX	Any Graphic Communications	2-3
160-XXX	Any Business Administration	2-3
304-XXX	Any Art	2-3
326-XXX	Any English	2-3
326-XXX	Any Journalism	2-3

Electives**6 credits required**

GENERAL BUSINESS ADMINISTRATION

Introduction

The Business Administration program at UW-Stout is unique in that it blends business with technology. It has a solid foundation of general liberal studies and covers the functional areas of marketing, manufacturing, finance, personnel, accounting and law. It also requires comprehensive courses in policies, management information systems, leadership, and the legal and ethical aspects of management. The unique aspect of requiring credits in a technical component allows a student to tap one or more of Stout's technology areas such as construction, graphic arts management, information systems, logistics management, loss control, packaging, quality management, training, retail management, hospitality and tourism management, and the like to complement the business program.

Recent graduates have obtained positions in areas of sales, retailing, production control, manufacturing supervision, purchasing, cost accounting, human resource management, restaurant management, customer service, banking and others.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Professional Preparation	8-9 credits
Major Studies	61 credits
Technical Component	10 credits
Electives	2-3 credits

A grade point average of at least 2.5 for the last 64 credits earned or a grade point average of 2.5 overall for UW-Stout credits earned in program is required.

Program Requirements

General Education

42 credits required

A. Communication Skills		8 Credits
326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II	3
391-100	Fundamentals of Speech	2

B. Analytic Reasoning		6 Credits
354-XXX	Any Statistics	2
355-123	Finite Mathematics with Applications (or more advanced)	4

C. Health and Physical Education		2 Credits
<i>Courses must be from areas of health, physical education or nutrition.</i>		

D. Humanities and the Arts		9 Credits
<i>Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.</i>		

E. Social and Behavioral Sciences		9 Credits
320-210	Principles of Economics I	3
<i>Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.</i>		

F. Natural Sciences (with Lab)		4 Credits
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G. Technology		2 Credits
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H. General Education Electives		2 Credits
<i>Courses must come from categories A, B, D, E and F.</i>		

Professional Preparation

8-9 credits

Problem Solving		3 credits
<i>Select one course from the following:</i>		
183-205	Design for Industry	3
326-347	Critical Writing	3
365-250	Critical Thinking	3
365-301	Introduction to Logical Thinking	3

Business Writing		3 credits
326-320	Business Writing or	
326-414	Technical Writing	3

Information Technology		2-3 credits
<i>Select one course from the following:</i>		
120-640	Telecommunication Systems and Teleconferencing	2
130-281	Data Communications	3
130-505	Office Automation Technology	3
130-507	Artificial Intelligence Applications in Business	2
130-509	Business Applications in Desktop Publishing	1-2
130-681	Telecommunications Systems Administration	3
160-310C	Special Topics – Management Information Systems: Data Base	2
XXX-XXX	Any computer-based information systems course from a specific technical emphasis area	1-3

Major Studies

61 credits

At least 50 percent of these credits must be taken at UW-Stout.

Business Core

28 credits

150-200	Production/Operations Management	3
160-100	Introduction to Business Administration	1
160-206	Introduction to Financial Accounting	3
160-207	Introduction – Corporate and Managerial Accounting	3
160-304	Principles of Management	3
160-318	Business Law I	3
160-330	Principles of Marketing	3
160-333	Management Information Systems – Decision Support	3
160-340	Business Finance	3
320-215	Principles of Economics II	3

Professional Core

33 Credits

Select one course from each of the following areas:

150-XXX	Any Production Operations	3
160-XXX	Any Accounting	3
160-XXX	Any Marketing	3
160-XXX	Any Legal	3
160-XXX	Any Integrated Systems	3
160-XXX	Any Experiential Learning	2
XXX-XXX	Any Human Resources	3
XXX-XXX	Any International	3
XXX-XXX	Any Management	3
XXX-XXX	Any Practicum	3
XXX-XXX	Any Business Electives	4

Technical Component

10 credits

Select courses related to one area of technology that relates to your selected professional core. Courses may be selected from construction, graphic arts management, information systems, logistics management, loss control, packaging, quality management, training, retail management, hospitality and tourism management or others with approval of the program director.

Electives

2-3 credits

GRAPHIC COMMUNICATIONS MANAGEMENT

Introduction

UW-Stout's Bachelor of Science Degree program in Graphic Communications Management prepares managers and supervisors for the printing and publishing industry. Students develop an understanding of the production process, from design through manufacturing of a product to distribution of that product. As members of a production team, graphic communication managers work with other professionals in the industry to make important decisions on design, estimating, materials, production planning, inventory, scheduling and quality control of printed products.

Through intensive hands-on laboratory environment, the program addresses skills necessary for students to succeed in the global marketplace of print media. A strong emphasis is placed on the application of theory and laboratory experience to the solution of real world problems. This program will prepare pragmatic managers of print production with the ability to respond aggressively to the needs of the marketplace; to apply research and theory to the development of marketable print media products using efficient processes; and to design with an awareness of the realities of the manufacturing process, cost, environment and needs of the customer and society.

Students involved in Graphic Communications Management are required to enroll in an industrial work experience program for six to eight months in the printing, publishing and packaging industry to gain practical experience to bridge the gap from the academic classroom and laboratories of the university to the real world of work.

Well-rounded professionals are produced by a balanced curriculum made up of the following components: general education; professional management studies; pre-press, press and post-press manufacturing systems; and professional electives.

Two student professional organizations complement this academic program. The Stout Typographical Society (STS) is manufacturing oriented, and the Technical Association of the Graphic Arts (TAGA) is research oriented. Both work closely together and invite industrial speakers to present on selected topics to their members, and both take field trips on a regular basis to visit industry.

The Graphic Communications Management program will be accredited by the National Association of Industry Technology (NAIT).

Tentative Curriculum

This information is provided only so prospective students can gain some understanding of the scope and type of courses that will be required for the degree. Some courses listed probably will be modified.

Proposed Program Requirements Bachelor of Science Degree

Total for graduation	124
General Education	53
Major Studies	62
Professional Selectives	9

General Education

53 credits required

A. Communication Skills **10 Credits**

326-101 Freshman English – Composition	3
326-102 Freshman English – Reading and Writing	3
391-100 Fundamentals of Speech	2
391-XXX Any Advanced Speech	2

B. Analytic Reasoning **6 Credits**

354-XXX Any Approved Statistics	2-3
355-121 College Math II	4

C. Health and Physical Education **2 Credits**

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts **9 Credits**

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences **9 Credits**

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) **13 Credits**

311-115 General Chemistry	5
372-231 General Physics I	4
372-232 General Physics II	4

G. Technology **2 Credits**

H. General Education Electives **2 Credits**

Courses must come from categories A, B, D, E and F.

Major Studies**62 credits required****Managerial and Professional Studies****29 credits**

130-595	Graphic Communications Seminar	3
130-5XX	Customer Service/Production Coordination	3
130-X49	Cooperative Education Experience	2
150-120	Quality Concepts	3
150-200	Production Management	3
150-500	Engineering Economy	3
150-600	Organizational Leadership	3
160-2XX	Accounting I or	
160-XXX	Financial Accounting - Industrial Technology	3
160-330	Principles of Marketing	3
326-XXX	Any Technical or Advanced Writing	3

Pre-Press, Press and Post-Press Manufacturing Systems**33 credits**

130-140	Graphic Communications	3
130-1XX	Electronic and Conventional Pre-Press	3
130-2XX	Press Systems	4
130-2XX	Post-Press Operations and Distribution	3
130-3XX	Color Electronic Pre-Press	3
130-3XX	Measurement and Control	3
130-475	Graphic Communications Cost Estimating	3
130-543	Graphic Communications Integrated Manufacturing	3
130-545	Publications Production	3
130-5XX	Digital Imaging	3
181-280	Packaging	2

Professional Selectives**9 credits**

120-XXX	Any Photography	2
130-281	Data Communication	3
130-543	Graphic Communications Integrated Manufacturing*	3
130-561	Screen and Speciality Print Manufacturing	3
130-5XX	Package Printing	3
130-X49	Cooperative Education Experience	2-6
130-X99	Independent Study	2
140-581	Occupational Safety/Loss	2-3
150-502	Time Management	1
150-505	Product and Inventory Control	3
150-520	Quality Assurance	3
160-304	Principles of Management	3
160-318	Business Law I	3
160-334	Sales and Sales Management	3
160-370	Principles of Advertising	3
160-585	International Marketing	3
181-XXX	Any Packaging	3
198-560	Training Systems for Business and Industry	3
304-310	Graphic Design I	3
308-150	Environmental Science	2
311-541	Chemistry of Materials	4
372-252	Laser Light and Waves	1
372-535	Optics	3
XXX-XXX	Other courses approved by program director	

*Current title is Graphic Arts Production Techniques

HOSPITALITY AND TOURISM MANAGEMENT

Introduction

Hospitality and Tourism Management is one of the largest and fastest growing industries in the United States. Each year, leisure time increases for thousands of Americans, and the demands on the hospitality industry are growing. Existing lodging and dining facilities are expanding and new businesses are developing to accommodate the increased demand for hospitality services.

UW-Stout's Hospitality and Tourism Management majors receive a variety of training. The program includes studies in general education to provide students a flexible background, enabling them to adapt to a wide variety of situations in today's rapidly changing society. The four-year curriculum is designed to prepare competent, creative and responsible managers. Graduates are employed in the hospitality food and beverage industry, hotels and tourism facilities.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	44-46 credits
Major Studies	79-84 credits
Elective	1 credit

The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

No grades of "F" or "D" will be accepted. It is recommended that any "F" or "D" grade be repeated the following semester. In order for transfer courses to be accepted in the program, a grade requirement of 1.67 or better must be met.

Students must maintain a 2.5 grade point average within major studies. Students will have until second semester of sophomore year to attain a 2.5 average.

Program Requirements

General Education

44-46 credits required

A. Communication Skills

10-12 Credits

326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II	3
3XX-XXX	Any approved foreign language	2-4
391-100	Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

354-130	Elementary Statistics	2
355-123	Finite Mathematics With Applications (or more advanced)	4

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

320-210	Principles of Economics	3
Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.		

F. Natural Sciences (with Lab)

4 Credits

G. Technology

2 Credits

H. General Education Electives

2 Credits

Course(s) must come from categories A, B, D, E or F.

Major Studies**79-84 credits required****Understanding the Industry****2 credits**

245-100 Introduction to Hospitality 2
Students are required to complete 320 hours of work experience in the hospitality industry. Students must have completed 90 credits and gain approval of the experience by the program director before beginning.

Operational Management**18 credits**

160-318 Business Law I 3
 182-130 Hospitality, Living and Institutional Facility Planning 2
 229-206 Nutrition in the Hospitality Industry 2
 245-222 Institutional Food Purchasing 2
 245-344 Hospitality Marketing and Sales 3
 245-600 Integrated Management Systems – Hospitality (seniors only) 2
 245-625 Hospitality Industry Law and Liability 3
 308-206 Food Service and Environmental Sanitation 1

Food and Beverage Production**11 credits**

229-124 Foods 4
 245-311 Quantity Food Production 4
 245-312 Restaurant Operational Management 3

Lodging Operations**8 credits**

245-201 Housekeeping Procedures 2
 245-202 Front Office Operations 3
 245-515 Lodging Administration 3

Tourism Analysis**5 credits**

245-240 Introduction to Tourism and the Travel Industry 2
 245-341 Tourism Goods and Services 3

Human Resource Management**8-9 credits***Take the following two courses in listed sequence*

245-205 Hospitality Organization Management 3
 198-560 Training Systems in Business and Industry 3

Select 2-3 credits from the following:

150-600 Organizational Leadership 3
 150-630 Employee Involvement: Work Teams 2
 214-527 Store Management 3
 245-626 Hospitality Industry – Employee and Labor Relations 2
 365-375 Personal and Professional Ethics 3
 479-582 Human Resource Management 3

Professional Communication**4-5 credits***Select 3 credits from the following:*

326-320 Business Writing 3
 326-346 Informational Writing 3
 326-347 Critical Writing 3

Select 1-2 credits from the following:

391-200 Persuasive Speaking 2
 391-206 Discussion 2
 391-236 Listening 2
 391-508 Speech Skills for Business and Industry 2
 391-514 Interviewing (seniors only) 1

Personal Development**3-6 credits***Select 1-3 credits from the following:*

212-355 Lifespan Human Development 3
 212-535 Seminar on Self-Growth 2
 212-615 Family Stress, Coping and Adaptation 1
 214-400 Self-Presentation in Business 1
 245-676 Family Finance 2
 479-535 Motivation and Emotion 3
 479-570 Assertive Training Procedures 2
 479-673 Psychology of Stress 2

Select 2-3 credits from the following:

212-250 Individual and Family Relations 3
 212-654 The Workplace and the Family 2
 212-685 Seminar–The Culturally Distinct Child and Family 2
 421-507 Applied Human Relations 2
 479-540 Psychology of Individual and Group Differences 3

Financial Management**12 credits**

160-206 Introduction to Financial Accounting 3
 245-370 Hotel and Restaurant Accounting 3
 245-371 Food, Beverage and Labor Cost Controls 3
 245-670 Hospitality–Financial Analysis/Budget/Forecasting 3

Application Skills**2 credits***Select 2 credits from the following:*

245-375 Computer Systems for Food Service 2
 245-381 Property Management Applications 2

Related Area**6 credits**

Students must complete courses in Operational Management, Food and Beverage Production, and Lodging Operations areas prior to enrolling in the following groups of courses.

*Select 6 credits in one group from the following:***Group 1: Tourism Planning**

245-340 Development of Tourism Attractions 3
 245-640 Sociocultural System of Tourism 3
 245-645 Geography of Tourism 3

Group 2: Food Service Operations

229-260 Menu Planning and Design 2
 229-308 Management of Food Production 3
 229-550 Fast Food Operations or
 245-550 Fast Food Operations 3
 229-614 Catering or
 245-614 Catering 3
 229-661 Multicultural Aspects of Food and Nutrition Patterns 3
 245-310 Introduction to Wines and Spirits 3
 245-501 Food Service Administration 3
 245-521 Food Service Equipment 2

Group 3: Lodging Administration

245-348 Hospitality Convention/Meeting Planning 2
 245-644 Resort Planning and Operation 3
 245-682 Hospitality and the Handicapped Traveler 1

Electives**1 credit required**

HUMAN DEVELOPMENT AND FAMILY STUDIES

Introduction

The Human Development and Family Studies (formerly *Child Development and Family Life*) program is the study of human development and family life in which child, family and community are viewed as interrelated. A multi-disciplinary approach provides content and theory to enhance the understanding of people and to develop creative approaches to serving them. Graduates of the program locate positions in family life education, human services and agency-related employment settings, in addition to being prepared for advanced study.

The program integrates academic study with significant experiential learning with children, families and community groups. Students are involved in observation/participation, field experience, independent study and practicum throughout the program. Hospitals, human service agencies, community groups, adolescent group homes and homes for senior citizens provide opportunities for the synthesis of practical and theoretical knowledge.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	48 credits
Major Studies	54 credits
Concentration or minor	22 credits

Students must have a cumulative grade point average of 2.5 within the major studies for graduation.

* Required courses with a grade of 2.0 or better.

** Required to become a Certified Family Life Educator by the National Council on Family Relations.

Program Requirements

General Education

48 credits required

A. Communication Skills

8 Credits

326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I*	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II*	3
391-100	Fundamentals of Speech*	2

B. Analytic Reasoning

6 Credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

15 Credits

387-110	Introductory Sociology*	3
479-110	General Psychology*	3
Remaining courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.		

F. Natural Sciences (with Lab)

4 Credits

G. Technology

2 Credits

H. General Education Electives

2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

54 credits required

212-101	Introduction to Child Development and Family Life	1
212-124	Child Development I**	4
212-250	Individual and Family Relations**	3
212-264	Child Guidance**	3
212-350	Dynamics of Family Development**	3
212-354	Skill Training for Individual/Family Interventions**	3
212-430	Human Development: Aging Person**	2
212-524	Child Development II**	3
212-530	Adulthood and the Family**	3
212-590	Family Research and Methodology**	3
212-601	Child and Family Law**	3
212-605	Family Health Care: Issues and Dilemmas**	2
212-610	Family Impact Seminar**	3
212-638	Child Abuse and Neglect	2
212-654	The Workplace and the Family**	2
212-685	Seminar – The Culturally Distinct Child and Family**	2
212-686	Experience: The Culturally Distinct Child and Family	1
212-692	Professional Issues**	2
212-693	Practicum in Child Development and Family Life**	4
375-510	Public Policy Analysis	3
413-666	Alcoholism and Family System Intervention	2

Concentration or Minor

22 credits required

Students complete the following concentration or have the option of completing the degree with selectives chosen in consultation with the program director, selecting the Aging Family minor, page 74, or any other minor, pages 74 to 78.

Child Development and Family Services

22 credits

387-205	Introduction to Social Work*	3
387-420	Child and Family Agencies*	3
387-430	Social Casework Methods*	3

Select 13 credits from either of the following options:

Option 1: Child Development Services

212-160	Children's Health and Safety	1
212-265	Child Guidance Practicum	1
212-274	Creative Activities for Young Children	2
212-351	Death and the Family	1
212-507	Parent Education/Involvement	2
212-525	Divorced, Single Parent and Remarried Family	2
212-531	Hospice Clinical Experience	2
212-535	Seminar on Self-Growth	2
212-545	Exceptional Needs and Programming – Early Childhood	2
212-594	Infant-Toddler Programming	2
212-595	Special Topics in Human Development: Intergenerational Lab	2
212-615	Family Stress, Coping and Adaptation	1
212-666	Family Planning	1
212-690	Death Education and Counseling in Families	2
229-136	Nutrition for Young Children	1
242-651	Family Life Education Programs	2
245-275	Management of Family Resources	3
326-300	Children's Literature	3
360-206	Music for the Young Child	2
387-560	Sociology of Juvenile Delinquency	3
431-516	Psychology of the Exceptional Child	3
459-505	Sign Language I	3
467-265	Physical Activities for Young Children	2
479-484	Introduction to Behavior Modification	2
479-552	Adolescent Psychology	3
479-561	Abnormal Psychology	3

Option 2: Family Services

212-251	Early Years of Marriage	1
212-351	Death and the Family	1
212-507	Parent Education/Involvement	2
212-525	Divorced, Single Parent and Remarried Family	2
212-531	Hospice Clinical Experience	2
212-535	Seminar on Self-growth	2
212-553	Dual Career Families	1
212-595	Special Topics in Human Development: Intergenerational Lab	2
212-615	Family Stress, Coping and Adaptation	1
212-626	Special Topics: Violence in the Family	1
212-650	Introduction to Marriage and Family Therapy	3
212-651	Marriage and Family Therapy Seminar	3
212-653	Relationship Communication Training	2
212-666	Family Planning	1
212-690	Death Education and Counseling in Families	2
229-136	Nutrition for Young Children	1
242-651	Family Life Education Programs**	2
245-275	Management of Family Resources	3
245-676	Family Finance	2
387-275	Sociology of Sex Roles	3
387-515	Criminology	3
387-560	Sociology of Juvenile Delinquency	3
459-505	Sign Language I	3
479-484	Introduction to Behavior Modification	2
479-552	Adolescent Psychology	3
479-561	Abnormal Psychology	3

INDUSTRIAL TECHNOLOGY

Introduction

UW-Stout's Industrial Technology degree is a broadly based program designed to prepare individuals for a variety of responsible industrial positions. Graduates have gained recognition and success in many areas of industry. Typical assignments include production planning and control, quality assurance, packaging, process engineering, methods engineering, systems analysis, cost estimating, purchasing, product design, sales and service, industrial relations, tools design, prototype development, technical communications, facilities management, and network administration.

The program provides for learning experiences to develop competencies in each of four broad areas: knowledge of the characteristics of materials and manufacturing processes; understanding of management principles and their application to industrial problems; awareness of the sociological implications and those psychological principles which are important in working with, communicating with, motivating, and supervising people; and skill in utilizing the mathematical and physical sciences to understand and solve technological and economic problems found in industry.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	51-55 credits
Major Studies	38 credits
Concentrations	36 credits

Program Requirements

General Education

51-55 credits required

A. Communication Skills 8 Credits

326-101 Freshman English - Composition or	
326-111 Freshman English - Honors I	3
326-102 Freshman English - Reading and Related Writing or	
326-112 Freshman English - Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning 6-8 Credits

354-130 Elementary Statistics or	
354-530 Statistical Methods	2-3
355-153 Calculus I or	
355-156 Calculus and Analytic Geometry I	4-5

C. Health and Physical Education 2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 Credits

320-201 General Economics or	
320-210 Principles of Economics I	3
Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.	

F. Natural Sciences (with Lab) 13-15 Credits

Select 5 credits from the following:

311-115 General Chemistry or	
311-125 Principles of Chemistry for Health Sciences or	
311-135 College Chemistry I	5

Select one group from the following:

Group 1

372-231 General Physics I	4
372-232 General Physics II	4

Group 2

372-241 College Physics I	5
372-242 College Physics II	5

Group 3

372-281 University Physics I	5
372-282 University Physics II	5

G. Technology 2 Credits

H. General Education Electives 2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

38 credits required

Professional Studies 28 credits

140-581 Occupational Safety/Loss Control	3
150-120 Quality Concepts	3
150-200 Production/Operations Management	3
150-500 Engineering Economy	2-3
150-514 Industrial Enterprise Practicum	3
150-600 Organizational Leadership	3
160-200 Financial-Managerial Accounting - Industrial Technology	3
326-515 Technical Writing or	
326-546 Research Reporting	3
391-XXX Any Advanced Speech	2

Basic Technology 10 credits

181-102 Manufacturing Materials and Processes I	3
183-112 Principles of Engineering Drawing I	2
184-204 Electricity/Electronics Fundamentals	3

Select 2-3 credits from the following:

120-180 Microcomputer Applications - Words/Data or	
XXX-XXX Any Approved Applications Course	2
130-103 Communication and Information Technology	3
130-140 Graphic Arts	2
181-103 Manufacturing Materials and Processes II	3
181-280 Packaging Fundamentals	2
185-103 Power Mechanics	2

Note: A revision to this program is in progress and is expected to be effective June 1, 1996.

Concentrations

Students may elect one of the following concentrations or complete the degree with electives chosen in consultation with the program director.

Electronics and Computer Technology **36 credits**

130-281	Data Communication	3
184-270	Circuit Analysis	4
184-371	Solid State Electronics	3
184-473	Digital Logic and Switching	3
184-542	Computer Applications in Electronics	3
184-574	Microprocessor Fundamentals	3
355-154	Calculus II	4

Choose one of the following:

184-595	Seminar	1-3
184-X49	Cooperative Education Experience	2-6
184-X89	Internship	2-3
184-X99	Independent Study	2

Select 10-12 credits from the following:

130-507	Artificial Intelligence Applications in Business	2
184-280	Networks	4
184-348	Motors and Generators	2
184-381	Linear Electronic Circuits	3
184-474	Digital Electronics	3
184-482	Electronic Communication Fundamentals or	
184-552	Electronic Communications	3
184-551	Introduction to Microprocessors	3
184-575	Microprocessor Interfacing	3
184-583	Fundamentals of Control	3
184-X98	Field Experience	1-2
XXX-XXX	Electives	0-5

Graphic Arts Management **36 credits**

130-246	Typography	2
130-251	Composition	3
130-355	Line and Halftone Photography	2
130-366	Image Transfer	3
130-370	General Binding	2
130-475	Printing Economics	3
130-543	Graphic Arts Production Techniques	2
130-557	Color Separation	2
130-595	Seminar	2
130-X49	Cooperative Education Experience or	
130-X98	Field Experience	2

Select 13 credits from the following:

120-605	Advanced Photography	2
120-645	Color Photography	2
130-263	Flexography and Gravure	2
130-359	Image Assembly and Platemaking	2
130-543	Graphic Arts Production Techniques	2-4
130-545	Publications Production	2
130-561	Screen Printing	2
130-X49	Cooperative Education Experience	7
130-X99	Independent Study	2-8
150-520	Quality Assurance	3
160-304	Principles of Management	3
160-370	Principles of Advertising	3
181-280	Packaging Fundamentals	2
181-315	Packaging Materials	3
181-380	Consumer Packaging Systems	3
181-480	Packaging Design and Evaluation	3
181-580	Packaging Development	3
181-585	Packaging Seminar	2
304-310	Graphic Design I	3
311-541	Chemistry of Materials	4
372-252	Laser Light and Waves	1
XXX-XXX	Other courses approved by program director	1-5

Industrial Distribution		36 credits	Manufacturing Management		36 credits
150-505	Product and Inventory Control	3	150-X49	Cooperative Education Experience or	
160-310	Special Topics – Management Information Systems	2	150-X89	Internship	1-3
160-334	Salesmanship and Sales Management	3	150-499	Independent Study	2
160-337	Purchasing	3	150-505	Product and Inventory Control	3
160-436	Marketing Management	3	150-510	Production Processing	3
160-438	Industrial Distribution	3	150-520	Quality Assurance	3
160-638	Industrial Distribution Seminar	2	150-540	Time and Motion Study	3
<i>Select 16 credits from one of the following emphasis areas:</i>			160-410	Manufacturing Cost Analysis	3
Distribution Emphasis			181-103	Manufacturing Materials and Processes II	3
130-505	Office Automation Technology	3	<i>Select 18 credits from the following:</i>		
130-507	Artificial Intelligence Applications in Business	2	Design Emphasis		
140-589	Fleet Safety Management	2	183-113	Principles of Engineering Drawing II	3
150-220	Quality Systems – Service Industries	3	183-290	Mechanics of Solids I or	
150-530	Material Handling	3	372-531	Statics	3
150-605	Production and Inventory Control Practicum	2	183-291	Mechanics of Solids II or	
150-318	Business Law I	3	372-325	Strength of Materials	3
160-X49	Cooperative Education Experience or		183-592	Mechanics of Machinery I	3
160-X89	Business and Industrial Internship or		183-593	Mechanics of Machinery II	3
160-X97	Field Experience	1-4	311-541	Chemistry of Materials	4
181-105	Basic Robotic and Automated Systems Application	3	372-222	Heat and Thermodynamics	2
181-280	Packaging Fundamentals	2	Automated Manufacturing Emphasis		
181-381	Distribution Packaging	3	130-507	AI Applications	2
186-501	Transportation	2	181-504	Computer Aided Manufacturing	3
Technical Sales Emphasis			181-505	Robotics	2
160-318	Business Law I	3	181-510	Manufacturing Systems	3
160-370	Principles of Advertising	3	181-537	Numerical Control in Manufacturing	1-3
160-679	Marketing Research	3	181-540	Design and Simulation of Manufacturing Cells	3
160-X49	Cooperative Education Experience or		183-113	Principles of Engineering Drawing II	3
160-X97	Field Experience	1-4	Operations Emphasis		
391-236	Listening	2	130-507	AI Applications	2
391-508	Speech Skills for Business and Industry	2	150-450	Maintenance Management	2
479-579	Public Relations	2	150-530	Material Handling	3
Mechanical Power Transmission Emphasis			150-540	Time and Motion	3
160-X49	Cooperative Education Experience or		150-550	Plant Layout	3
160-X89	Business and Industrial Internship or		150-630	Employee Involvement: Work Teams	2
160-X97	Field Experience	1-4	160-260	International Business	3
184-348	Motors and Generators	2	160-337	Purchasing	3
184-551	Introduction to Microprocessors	3	160-438	Industrial Distribution	3
185-260	Introduction to Fluid Power	2	198-560	Training Systems in B and I	3
185-303	Mechanical Power Transmission	3	320-420	Labor Economics or	
185-361	Industrial Hydraulics	2	320-421	Collective Bargaining	3-2
185-362	Industrial Pneumatics	2	<i>Select up to 5 additional professional/technical credits (for any emphasis).</i>		
185-603	Problems in Power Transmission	3			

Facilities Management**36 credits**

150-450	Maintenance Management	2
150-530	Material Handling	3
150-550	Plant Layout	3
150-489	Business and Industrial Internship or	
150-X49	Cooperative Education Experience	1-3
150-499	Independent Study	2
182-237	Architectural Technology	3
182-552	Environmental Systems — HVAC	3
185-260	Introduction to Fluid Power	2
311-553	Environmental Chemistry	3
372-325	Strength of Materials	3

Select 10 credits from the following:

182-357	Site Engineering	2
182-538	Contract Requirements and Specifications	3
182-553	Environmental Systems — Plumbing and Electrical	3
182-558	Structural Systems — Wood and Steel	3
182-559	Structural Systems — Concrete and Masonry	3
182-570	Construction Estimating I	3
182-572	Management of Construction	3
183-212	Descriptive Geometry	3
183-311	Technical Drafting	3
184-344	Electric Power and Distribution	2
184-348	Motors and Generators	2
185-303	Mechanical Power Transmission	3
185-361	Industrial Hydraulics	2
185-362	Industrial Pneumatics	2
372-222	Heat and Thermodynamics	2
XXX-XXX	Other courses approved by program director	0-5

Special**36 credits***Select 8 credits from the following:*

130-140	Graphic Arts	2
150-520	Quality Assurance	3
160-410	Manufacturing Cost Analysis	3
181-103	Manufacturing Materials and Processes II	3
181-280	Packaging Fundamentals	2
182-170	Light Construction Methods	2
183-290	Mechanics of Solids I	3
185-260	Introduction to Fluid Power	2

*Select 20 credits in approved concentration core.**Select 8 additional professional/technical credits.***Product Development****36 credits**

183-113	Principles of Engineering Drawing II	3
183-290	Mechanics of Solids I or	
372-531	Statics	3
183-291	Mechanics of Solids II or	
372-325	Strength of Materials	3
183-532	Mechanical Design	4
183-537	Mechanical Design Drafting	2
183-592	Mechanics of Machinery I or	
372-533	Dynamics	3
183-593	Mechanics of Machinery II	3
372-533	Dynamics	3
XXX-XXX	Senior Capstone or	
183-620	Research and Development	2

Select 2-3 credits from the following:

130-X98	Field Experience	2
183-212	Descriptive Geometry	3
183-414	Technical Illustration	3
183-433	Tool and Die Design	2
183-636	Computer Assisted Design Problems	2

Select 2-5 credits from the following:

150-510	Production Processing	3
181-504	Computer Aided Manufacturing	3
181-505	Robotics	2
181-515	Metallurgy	3
181-537	Numerical Control in Manufacturing	3
183-X49	Cooperative Education Experience	1-3
184-551	Introduction to Microprocessors	3
184-552	Electronic Communications	3
185-260	Introduction to Fluid Power	2
185-303	Mechanical Power Transmission	3
185-361	Industrial Hydraulics	2
311-136	College Chemistry II	5
311-541	Chemistry of Materials	4
XXX-XXX	Other courses approved by the program director	0-5

*Select 2-6 credits from the courses above not already taken.***Quality Technology****36 credits**

150-220	Quality Systems — Service Industries	3
150-499	Independent Study	2
150-520	Quality Assurance	3
150-525	Quality Management	3
150-620	Quality Assurance — Practicum	2
181-508	Industrial Metrology	3
311-541	Chemistry of Materials	4
372-325	Strength of Materials	3

Select 13 credits from the following:

140-584	Safety Engineering Standards	2
150-450	Maintenance Management	2
150-530	Material Handling	3
150-630	Employee Involvement: Work Teams	2
150-X49	Cooperative Education Experience	2-6
181-103	Manufacturing Materials and Processes II	3
181-280	Packaging Fundamentals	2
181-504	Computer Aided Manufacturing	3
181-505	Robotics	3
181-537	Numerical Control in Manufacturing	3
184-551	Introduction to Microprocessors	3
184-553	Instrumentation and Control	3
311-535	Instrumental Methods of Analysis	3
312-542	Industrial Hygiene	3
XXX-XXX	Other courses approved by the program director	1-5

Technical Communications**36 credits**

120-560	Audiovisual Communications	2
130-509	Business Applications in Desktop Publishing	2
183-414	Technical Illustration	3
198-560	Training Systems in Business and Industry	3
326-425	Copy Editing and Preparation	2
326-535	Writing Technical Manuals	3
391-208	Theory of Communication	3

Select 8 credits from the following:

120-180	Microcomputer Applications – Words/Data	2
120-561	Advanced Graphic Production	2
120-630	Audio/Film Production Fundamentals or	
391-544	Television Programming and Performance	3
120-645	Color Photography	2
130-504	Communications and Information Systems	1-3
130-505	Office Automation Technology	3
130-545	Publications Production	2
183-234	Computer Assisted Design and Drafting	2
183-636	Computer Assisted Design Problems	2
184-551	Introduction to Microprocessors	3
184-552	Electronic Communications	3
354-240	FORTTRAN Programming	3

*Select 10 additional professional/technical credits.***Telecommunication Systems****36 credits**

130-281	Data Communications	3
130-283	Protocols and Interfacing Laboratory	3
130-506	Introduction to Telephony	2
130-507	Artificial Intelligence Applications in Business	3
130-581	Advanced Voice and Data Systems	4
130-582	Network Systems Design	3
130-681	Telecommunications Systems Management	3
160-310	Special Topics – Manufacturing Information Systems	2
184-482	Electronic Communication Fundamentals	3

Select 2-3 credits from the following:

120-640	Telecommunication Systems and Teleconferencing	2
130-505	Office Automation Technology	3
184-551	Introduction to Microprocessors	3
354-145	Computer Science II	3

Select 8-9 credits from the following:

160-318	Business Law I	3
183-X49	Cooperative Education Experience	3
198-560	Training Systems in Business and Industry	3
354-341	Data Structures	3
XXX-XXX	Other courses approved by program director	1-5

Off-Campus Learning Experiences

Three types are available: Field Experience; Cooperative Education Experience; and Internship. Students are encouraged to plan early for this learning experience since competition for industry-related sites is keen and those with the best preparation are selected. For additional details, see page 17.

MANUFACTURING ENGINEERING

Introduction

UW-Stout's Bachelor of Science Degree program in Manufacturing Engineering is designed to prepare engineers as experts in the production process, from design through manufacturing. As a member of a production team, the manufacturing engineer works with other professionals in the design of products, particularly from the point of view of the efficiency of fabrication. They are responsible for selecting the right materials for various product applications and for determining the methods to be used in processing these materials into usable products. Through the use of computers, they design and control the automated systems capable of rapidly making the product in large numbers. They must make important management decisions regarding production planning, inventory, scheduling and quality.

Through the intensive hands-on laboratory environment which is at the heart of UW-Stout's teaching strategy, the program addresses these required skills by placing strong emphasis on the application of theory to the solution of real world problems. It prepares pragmatic engineers who have the ability to respond aggressively to the changing needs of the marketplace, to apply research and theory to the development of marketable products and efficient processes, and to design with an awareness of the realities of manufacturing and the needs of society. The curriculum has balanced components in:

1. General Education
2. Product and Tool Design
3. Manufacturing Materials and Processes
4. Computer Control and Manufacturing Systems
5. Engineering Management

In order to extend the accessibility of the program, a pre-engineering agreement has been made with the School of Engineering at UW-Platteville. Under the terms of the agreement, students may enroll in the engineering program of either institution and transfer to the other after up to two years of study at the first. As a result, students involved in this program have the opportunity to major in one of five engineering programs: manufacturing engineering at UW-Stout, or electrical, mechanical, civil or industrial engineering at UW-Platteville.

Program Requirements

Bachelor of Science Degree

Total for graduation	137
General Education	43
Major Studies	94

General Education

43 credits required

A. Communication Skills 8 Credits

326-101	Freshman English - Composition or	
326-111	Freshman English - Honors I	3
326-102	Freshman English - Reading and Related Writing or	
326-112	Freshman English - Honors II	3
391-100	Fundamentals of Speech	2

B. Analytic Reasoning 8 Credits

355-153	Calculus I	4
355-154	Calculus II	4

C. Health and Physical Education 2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 Credits

Courses must be from two areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 Credits

Courses must be from two areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 5 Credits

311-135	College Chemistry I	5
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G. Technology 2 Credits

Major Studies

94 credits required

Mathematics and Basic Sciences 20 Credits

311-541	Chemistry of Materials	4
354-330	Probability and Statistics	3
355-250	Differential Equations/Linear Algebra	3
372-281	University Physics I	5
372-282	University Physics II	5

Engineering Core 10 Credits

183-293	Engineering Mechanics	3
183-294	Mechanics of Materials	3
184-290	Circuits and Devices	4

Materials and Manufacturing Processes 24 Credits

181-102	Manufacturing Materials and Processes I	3
181-103	Manufacturing Materials and Processes II	3
181-320	Material Removal	3
181-358	Forming Processes I	5
181-375	Joining and Fastening	4
181-XXX	Coating, Finishing and Packaging	3
181-DDD	Forming Processes II	3

Process, Assembly and Product Engineering 10 Credits

181-511	Design of Fixtures, Jigs and Tooling	3
181-KKK	Capstone I: Product Design by Concurrent Engineering	2
183-115	Engineering Graphics	5

Manufacturing Integration Methods and System Design 18 Credits

181-504	Computer Aided Manufacturing	3
181-510	Capstone II: Manufacturing Systems Design	3
181-540	Design and Simulation of Manufacturing Systems	3
181-AAA	Flexible Manufacturing Systems	4
184-363	Controls and Instrumentation	3
184-GGG	Fluid Mechanics	2

Manufacturing Productivity and Quality 12 Credits

150-200	Production and Operations Management	3
150-422	Quality Engineering	3
150-435	Facilities and Material Handling Systems Design	2
150-480	Production Systems Planning	2
150-500	Engineering Economy	2

MARKETING EDUCATION

Introduction

The field of marketing requires training for owners, managers and employees engaged primarily in marketing goods and services. Marketing Education at UW-Stout provides the teachers to train the work force. Marketing Education is one area of career and vocational education supported by local, state and federal funds. Teachers graduating with this major are prepared to teach marketing education at the secondary and/or post-secondary levels. Many graduates enter marketing positions in business and industry.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	82 credits

Although it is not a requirement for graduation, students should be aware of the fact that they must acquire a minimum of 4,000 hours of occupational experience before they can be certified to teach marketing education in Wisconsin and Minnesota.

Students must fulfill the English adequacy and speech proficiency requirements. Students must pass the Preprofessional Skills Test to receive teacher certification.

Participation in Collegiate DECA is required.

Note: Students are required to maintain a 2.75 grade point average throughout the marketing education program.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 Credits

326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

355-XXX Any Mathematics	4
Remaining courses must be from areas including math, logic, statistics and computer science.	

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

326-XXX Any Literature	3
338-210 Modern World	3
XXX-XXX Any Creative/Performing Arts	1
Remaining courses must be from areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.	

E. Social and Behavioral Sciences *

9 Credits

320-210 Principles of Economics I	3
375-210 Government	3
479-110 General Psychology	3

F. Natural Sciences (with Lab)

4 Credits

Choose a biology course, and either a chemistry or physics course.

G. Technology

2 Credits

H. General Education Electives *

2 Credits

Courses must come from categories A, B, D, E and F. * If students take 320-215 Principles of Economics II as an elective, they meet the requirements for a Business Administration minor.

Major Studies

82 credits required

150-600 Organizational Leadership or	
479-582 Human Resource Management	3
160-206 Introduction to Financial Accounting	3
160-207 Introduction – Corporate and Managerial Accounting	3
160-304 Principles of Management	3
160-318 Business Law I	3
160-330 Principles of Marketing	3
160-334 Salesmanship and Sales Management	3
160-370 Principles of Advertising	3
160-679 Marketing Research	3
196-201 Introduction to Marketing Education	3
196-202 Supervision of Distributive Education Clubs	3
196-301 Marketing Education Methods	3
196-311 Marketing Education Project Method	2
196-312 Pre-Clinical Experience: Marketing Education	1
196-401 Marketing Education Curriculum	2
196-409 Marketing Education – Student Teaching	16
196-555 Marketing Education Seminar	3
199-502 Principles of Vocational, Technical and Adult Education	2
199-560 Cooperative Occupational Education Programs	2
421-303 Educational Psychology	3
421-312 Introduction to Curriculum, Methods and Assessment	2
421-326 Foundations of Education	2
421-536 Multiculturalism: Issues and Perspectives	2
421-576 Field Experience – Cross Cultural Experience (or comparable experience)	1
421-582 Secondary Reading and Language Development	2
431-630 Mainstreaming Students With Exceptional Educational Needs	3

Select 3 credits from the following:

160-355 Principles of Risk Management	3
160-365 Principles of Real Estate	2
160-690 Administrative and Business Policies	3
320-325 Economic and Business Statistics	3
320-550 Managerial Economics	3
479-579 Public Relations	2

PACKAGING

Introduction

A packaging career today requires a thorough knowledge of materials, methods, design concepts, and machinery to develop and produce the packages that protect and preserve a product, help market the product and instruct the consumer in its proper use. UW-Stout's Bachelor of Science Degree program in Packaging prepares students for technical or management responsibilities in the packaging industry to meet these needs. The program places strong emphasis on the application of theory to strengthen problem solving abilities and challenges students by providing opportunities to solution "real" packaging industry problems in classroom/laboratory settings.

The trend in the packaging industry is to hire employees who can function in more than one area at career entry. UW-Stout's Packaging program recognizes this trend by offering the student several "emphasis" options which include course and lab work beyond the technical core of the program. This distinguishing feature allows students to draw on other well-recognized programs offered at UW-Stout: graphic arts, graphic design, food science, business and sales, quality and manufacturing, and packaging research and development. With the quantity and variety of products produced in the world, it is easy to understand that packaging is a dynamic multibillion dollar industry in need of well educated men and women. UW-Stout graduates in Packaging are positioned advantageously for entry into the expanding and evolving packaging industry, as well as for further studies in the field of packaging.

General Requirements

Bachelor of Science Degree

Total for graduation	124
General Education	54
Major Studies	55
Emphasis	15-16

Program Requirements

General Education

54 credits required

A. Communication Skills

10 Credits

326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II	3
391-100	Fundamentals of Speech	2
<i>From the approved list of General Education courses, select:</i>		
391-XXX	Any advanced speech or	
3XX-XXX	Any foreign language	2

B. Analytic Reasoning

6 Credits

354-130	Elementary Statistics	2
355-153	Calculus I	4

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

320-201	General Economics or	
320-210	Principles of Economics	3
<i>Remaining courses must be from at least two areas including anthropology, economics, geography, political science, psychology and sociology.</i>		

F. Natural Sciences (with Lab)

16 Credits

311-115	General Chemistry or	
311-125	Principles of Chemistry for Health Sciences or	
311-135	College Chemistry I	5
<i>Select one physics sequence:</i>		
372-231	General Physics I and	
372-232	General Physics II	8
372-241	College Physics I and	
372-242	College Physics II	10
372-281	University Physics I and	
372-282	University Physics II	10
<i>Select 3 credits from:</i>		
308-XXX	Any approved General Education biology elective	3

G. Technology

2 Credits

Major Studies**55 credits required**

130-140	Graphic Arts or	
184-204	Electricity/Electronics	2-3
150-120	Quality Concepts	3
150-200	Production/Operations Management	3
150-500	Engineering Economy	3
150-600	Organizational Leadership	3
181-102	Manufacturing Materials and Processes I	3
181-280	Packaging Fundamentals	2
181-315	Packaging Materials	3
181-340	Plastic Processing	3
181-380	Consumer Packaging Systems	3
181-381	Distribution Packaging	3
181-385	Packaging Machinery	3
181-480	Packaging Design and Evaluation	3
181-580	Packaging Development	3
181-585	Packaging Seminar	2
183-112	Principles of Engineering Drawing I	2
183-205	Design for Industry or	
304-101	Fundamentals of Design	3
183-234	Computer Assisted Design and Drafting	2
326-515	Technical Writing or	
326-546	Research Report Writing	3
<i>Select 2 credits from:</i>		
308-XXX	Any Environmental Science	2
<i>Optional:</i>		
181-X49	Cooperative Education Experience	1-2

Emphasis*Select an emphasis to meet your career objectives.***Packaging Graphic Design****15 credits**

304-100	Drawing I	3
304-202	Introduction to Art or	
304-305	Presentation Techniques	3
304-300	Design Theory and Methods	3
304-310	Graphic Design I	3
304-360	Graphic Design II	3
304-410	Product and Packaging Graphics	3

Manufacturing/Quality**15 credits**

150-220	Quality Systems	3
150-520	Quality Assurance	3

Select 9 credits from the following:

150-505	Product and Inventory Control	3
150-530	Material Handling	3
150-540	Time and Motion	3
150-550	Plant Layout	3
160-410	Manufacturing Cost Analysis	3

Packaging Design Research and Development**15 credits**

182-375	Wood and Wood Fiber Materials	3
183-290	Mechanics of Solids I or	
372-531	Statics	3
183-291	Mechanics of Solids II or	
372-325	Strength of Materials	3
183-520	Prototype Development and Model Making	3
183-592	Mechanics of Machinery I or	
372-533	Dynamics	3
183-620	Research and Development and	
183-621	Research and Development Lab	3
311-541	Chemistry of Materials	3
326-515	Technical Writing	3

Package Printing**15 credits**

130-251	Composition	3
130-263	Flexography and Gravure	2
130-355	Line and Halftone Photography	2
130-366	Image Transfer	3
130-475	Printing Economics	3
130-543	Graphic Arts Production Techniques	2
130-557	Color Separation	2

Business/Sales**15 credits**

160-200	Financial - Managerial Accounting or	
160-206	Introduction to Financial Accounting	3
160-304	Principles of Management	3
160-330	Principles of Marketing	3
160-333	Management Information Systems	3
160-334	Sales and Sales Management	3

Foods/Packaging**16 credits**

229-240	Food Science	4
229-542	Advanced Foods	3
229-650	Food Processing	3

Select 6 credits from the following:

229-442	Basic Sensory Analysis	3
229-610	Food Policy Regulation and Law	3
229-651	Food Engineering	3
308-506	Food Microbiology	3
311-515	Food Chemistry	3

PSYCHOLOGY

Introduction

Psychology, as a program, is the systematic study of behavior, particularly the behavior of individuals—their actions, reactions and cognitions. It has as its overriding goal the preparation of students to contribute to the improved condition of man. Students acquire competencies that lead to employment wherever psychology is applied in educational institutions, public and private agencies, business and industry. Students entering the program should realize that they must obtain graduate level education or other advanced training before they will be accepted as professional psychologists.

Students are given the opportunity to develop a personal program plan centered around their individual needs and goals. With careful planning, students may include self-planned concentrations in their programs in such diverse areas as counseling foundations, biofeedback technology, human services, family issues, industrial psychology and many others. All students are expected to include a core of study in the fundamental principles of human behavior in their programs, and each is expected to develop literacy in the arts, humanities, natural sciences and social sciences. Each student is also expected to develop and demonstrate effective communication skills as a part of the program's requirements.

General Requirements

Bachelor of Arts Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	40 credits
Minor or second area of depth	13-22 credits
Additional Liberal Studies Requirement	14 credits
Electives	6 credits

Students must attain a minimum grade point average of 2.25 in required courses for the major and a minimum grade point average of 2.5 in other courses for the major.

Program Requirements

General Education

42 credits required

A. Communication Skills		8 Credits
326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II	3
391-100	Fundamentals of Speech	2

B. Analytic Reasoning		6 Credits
354-130	Elementary Statistics (or more advanced)	2
355-120	Introductory College Mathematics I (or more advanced)	4

C. Health and Physical Education		2 Credits
<i>Courses must be from areas of health, physical education or nutrition.</i>		

D. Humanities and the Arts		9 Credits
<i>Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.</i>		

E. Social and Behavioral Sciences		9 Credits
<i>Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.</i>		

F. Natural Sciences (with Lab)		4 Credits
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G. Technology		2 Credits
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H. General Education Electives		2 Credits
<i>Courses must come from categories A, B, D, E and F.</i>		

Major Studies

40 credits required

Required Courses

17 credits

479-110	General Psychology	3
479-190	Psychological Research Methods	4
479-210	Introduction to Applied Psychology	3
479-390	Experimental Psychology	4
479-520	Psychology: Its History and Systems	3

Psychology Breadth Selectives

13 or more credits

Select at least one course from each of the following groups:

Group 1: Experimental

479-451	Children's Learning	3
479-530	Psychology of Learning	3
479-535	Motivation and Emotion	3
479-632	Perception	3

Group 2: Developmental Social

479-251	Child Psychology	3
479-270	Social Cognition and Behavior	3
479-552	Adolescent Psychology	3
479-XXX	Psychology of Adjustment	3

Group 3: Clinical

479-460	Personality and Mental Health	3
479-540	Psychology of Individual and Group Differences	3
479-561	Abnormal Psychology	3
479-690	Psychological Measurement	3

Group 4: Applied

413-405	Peer Counseling	3
459-509	Introduction to Biofeedback	3
479-281	Environmental Psychology	3
479-484	Introduction to Behavior Modification	2
479-571	Introduction to Health Psychology	3
479-581	Industrial Psychology	2

Group 5: Experiential

479-X49	Cooperative Education Experience in Psychology	1-8
479-X98	Psychology Field Experience	2
479-480	Individual Research Project I and	1
479-481	Individual Research Project II	1
479-X99	Independent Study**	2-3

**Must involve research and be approved by the program director as meeting the requirement of this category.

Psychology Selectives

Selectives to bring the total to 40 credits. Select from any combination of the following options:

1. Additional courses from the Psychology Breadth Selectives.
2. Additional 479-XXX courses.
3. Behavioral science related courses offered by other departments subject to the program director's approval.

Minor or Second Area of Depth

13-22 credits

Students are expected to take a minor, specialization or self-planned concentration. The self-planned concentration (22-credit minimum) allows students to select course work and learning experiences that relate to a particular area of interest, and must be planned with an adviser and approved by a committee of at least three persons designated by the Psychology Program Committee.

Additional Liberal Studies Requirements

14 credits

Select 5 credits from the following:

308-XXX	Any Biology	1-4
311-XXX	Any Chemistry	1-5
372-XXX	Any Physics	1-5

Select 3 credits from the following:

326-XXX	Any Writing	1-3
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Select 3 credits from the following:

304-XXX	Any Art	1-3
326-XXX	Any Literature	1-3
338-XXX	Any History	1-3
360-XXX	Any Music	1-3
365-XXX	Any Philosophy	1-3
391-XXX	Any Performing Arts	1-3

Select 3 credits from the following:

303-XXX	Any Anthropology	1-3
320-XXX	Any Economics	1-3
336-XXX	Any Geography	1-3
338-XXX	Any History	1-3
375-XXX	Any Political Science	1-3
387-XXX	Any Sociology	1-3

Electives

6 credits required

RETAIL MERCHANDISING AND MANAGEMENT

Introduction

Retail Merchandising and Management is a program designed to prepare resourceful, creative and competent leaders who understand the retail industry. Students take courses such as sales promotion, accounting, merchandising and distribution as well as communications, English, mathematics, social studies and the humanities. A minor in Business Administration is included in the requirements of the program. A highlight of the program is a field experience and co-op where the student works in retailing. Optional experiences and academic opportunities are also available including study abroad at the American Fashion College in London and a national study tour to retail related industries.

This program provides opportunities for careers such as group manager, store buyer, divisional merchandise manager, resident buyer, operations manager, personnel director, promotion-publicity manager and fashion director. Graduates with the interior decorating concentration may seek employment in retailing, interior studios, consulting or operating their own business.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	71-78 credits
Electives	4-11 credits

A minimum grade point average of 2.5 is required for graduation.

Definitions

UW-Stout offers two concentrations that are similar in name. "Interior Design" (B.F.A. in Art) and "Interior Decorating" (B.S. in Retail Merchandising and Management) are different, and offer students a choice of two professional areas.

Interior decorators furnish and accessorize existing or planned spaces using knowledge of color, fabrications, interior decoratives and furniture, fixtures and equipment to accommodate each client's individual taste.

The interior decorating concentration in this program provides graduates with business and decorating skills to enter the marketplace in retailing, interiors studios, or their own business, including consulting.

Interior designers produce functional and meaningful interior environments (*residential, commercial and public spaces*) by integrating human factors, art and design concepts, space planning, knowledge of architecture, building construction, codes, specifications, materials and furnishings.

The interior design concentration in the Art program, pages 36 to 38, prepares graduates to solve interior design problems, including the initial design and remodeling of structures, as part of an architectural design team or as a consultant.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 Credits

326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II	3
391-100	Fundamentals of Speech	2

A minimum grade of "C" is required in each course. When courses in this category are transferred from other schools, grades as well as credits will apply.

B. Analytic Reasoning

6 Credits

355-XXX	Any approved mathematics	4
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Remaining courses must be from areas of math, logic, statistics and computer science.

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

320-210	Principles of Economics I	3
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Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 Credits

G. Technology

2 Credits

H. General Education Electives

2 Credits

Course(s) must come from categories A, B, D, E or F.

Major Studies

76-78 credits required

Students may choose either the Major Studies component listed here, or the Major Studies with Interior Decorating Concentration listed in the right column.

Students must earn a minimum grade of 2.0 in each 200 and 214 course, and must have a cumulative grade point average of 2.5 in the major studies component. When courses in this component are transferred from other schools, grades as well as credits will apply.

160-206	Introduction to Financial Accounting	3
160-304	Principles of Management	3
160-330	Principles of Marketing	3
200-325	Computer Applications in Home Economics	2
212-525	Divorced, Single-Parent and Remarried Families or	
212-654	The Workplace and the Family	2
214-112	Fashion Forecasting	3
214-120	Introduction to Apparel, Textiles and Merchandising	2
214-140	Textiles	3
214-202	Quality Analysis of Sewn Products	3
214-227	Basic Merchandising	3
214-229	Visual Merchandising	3
214-329	Fashion Merchandising Promotion	3
214-330	Home Furnishings Merchandising	2
214-389	Logistics for Retail Merchandising	3
214-398	Field Experience	2
214-430	Merchandise Planning and Control	4
214-519	International Economic Trends in Textiles/Clothing	3
214-527	Store Management	3
214-534	Servicing the Needs of Minorities and Aging Populations	3
214-535	Special Topics in Retail Merchandising and Management	1-3
214-611	History of Fashion – 19th Century to Present	3
214-617	Social/Psychological Aspects of Clothing	3
214-625	Mass Merchandising	2
214-626	Fashion Retailing Practicum	4
214-631	Service Management Strategies (seniors only)	3
320-215	Principles of Economics II	3

Select one of the following:

198-560	Training Systems in Business and Industry	3
479-581	Industrial Psychology	2
479-582	Human Resource Management	3

Select one of the following:

212-525	Divorced, Single Parent and Remarried Families	2
212-654	The Workplace and the Family	2

Optional Experience and Academic Opportunities

By application only

214-449F	Retail Co-op Education/Internship	3-6
214-477	Study Abroad – American Fashion College	16
214-619	National Study Tour to the Fashion Industry	1

Minors

A minor in business administration is automatic with completion of 160-207 Managerial Accounting in electives. An additional minor is recommended for those with interest in specific areas. Contact the program director or adviser for assistance.

The Interior Decorating concentration provides an Art minor with the completion of 304-100 Drawing as part of the Humanities and the Arts general education requirement (or as an elective).

Electives

4-11 credits

Students who choose the Major Studies component (left column) will have 4-6 credits of electives. Students who choose the Major Studies with the Interior Decorating Concentration (right column) will have 9-11 credits of electives.

Major Studies with the Interior Decorating Concentration

71-73 credits required

160-206	Introduction to Financial Accounting	3
160-330	Principles of Marketing	3
183-234	Computer Assisted Design and Drafting	2
200-325	Computer Applications in Home Economics	2
214-109	Introduction to Interior Decorating	3
214-140	Textiles	3
214-227	Basic Merchandising	3
214-229	Visual Merchandising	3
214-330	Home Furnishings Merchandising	2
214-398	Field Experience	2
214-409	Interior Decorating Studio (seniors only)	3
214-430	Merchandise Planning and Control	4
214-527	Store Management	3
214-534	Servicing the Needs of Minorities and Aging Populations	3
214-535	Special Topics in Retail Merchandising and Management	1-3
214-545	Textiles for Interiors	2
214-695	Historic and Contemporary Fabrics	3
245-250	Family Housing	3
245-436	Commercial and Residential Lighting	2
304-101	Fundamentals of Design	3
304-202	Introduction to Art	3
304-204	Interior Design	3
304-304	Interior Design II	3
304-305	Presentation Techniques	3
304-532	Economics of House Furnishing	3
304-533	Period Furnishings	3

TECHNOLOGY EDUCATION

Introduction

Technology Education is a Bachelor of Science degree program consisting of 124 semester credits of general, professional and technical course work. The program leads to teaching certification in all 50 states. Although this program is designed to lead to an education degree, graduates find challenging career opportunities in business and industry as well. Students study fields such as communication, construction, manufacturing and transportation. They work with technologies such as computers, robots and lasers, and with more conventional equipment used in processing materials, energy and information. Students are required to complete at least 42 credits of general education in areas such as English, mathematics, science, speech and social studies. They are also required to complete 39 credits of professional education in areas of curriculum and instruction, human behavior and student teaching in a secondary school. Forty-three credits of technical work are also required. Of this, 35 credits are prescribed for all students in the majors and eight credits are electives to permit additional study in a selected area of communication, construction, manufacturing or transportation.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	82 credits

Students must have a cumulative grade point average of 2.75 or better to be admitted to advanced standing for teacher education. Graduation requires a 2.75 overall grade point average, excluding clinical and preclinical experiences. See pages 17-18 for additional information. Participation in a related organization is required.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 Credits

326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

355-XXX Any approved mathematics	4
Remaining courses must be from areas including math, logic, statistics and computer science.	

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts*

9 Credits

326-XXX Any Literature	3
XXX-XXX Any Creative/Performing Arts	3
Remaining course must be from areas including art history, creative arts, history, literature, music appreciation, performing arts or philosophy. * Either 338-210 Modern World must be taken under this category or 303-220 Cultural Anthropology must be taken under Category E.	

E. Social and Behavioral Sciences *

9 Credits

375-210 Government	3
479-110 General Psychology	3
Remaining course must be from areas of anthropology, economics, geography, political science, psychology or sociology.	

* See previous note under Category D.

F. Natural Sciences (with Lab)

4 Credits

Choose a biology course, and either a chemistry or physics course.

G. Technology

2 Credits

H. General Education Electives

2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

82 credits required

Technical

43 credits

130-103 Communication and Information Technology	3
130-504 Communications and Information Systems	3
150-514 Industrial Enterprise Practicum	3
181-102 Manufacturing Materials and Processes I	3
181-103 Manufacturing Materials and Processes II	3
182-170 Light Construction Methods	2
183-112 Principles of Engineering Drawing I	2
183-205 Design for Industry	3
183-620 Research and Development	2
184-204 Electricity/Electronics Fundamentals	3
184-555 Electronic System Applications	3
186-202 Transportation Systems	2
186-203 Transportation Systems Laboratory	1
186-204 Energy Technology	2
186-205 Energy Technology Laboratory	1
XXX-XXX Technical Electives	7

Professional Education

39 credits

190-160 Introduction to Technology Education	2
190-205 Teaching Methods Technology/Vocational Education	2
190-405 Curriculum Technology/Vocational Education	2
190-406 Evaluation in Technology/Vocational Education	2
190-409 Student Teaching	16
421-303 Educational Psychology	3
421-312 Introduction to Curriculum, Methods and Assessment	2
421-326 Foundations of Education	2
421-536 Multiculturalism: Issues and Perspectives	2
421-576 Field Experience – Cross Cultural Experience	1
(or a comparable experience)	
421-582 Secondary Reading and Language Development	2
431-630 Mainstreaming Students With Exceptional Educational Needs	3

Vocational Certification

A student who wishes to become certifiable to teach an advanced level occupational skills course in Wisconsin must complete this degree program, a course in Principles of Vocational, Technical and Adult Education, and a course in Organization and Administration of Cooperative Education Programs. The student must also have a minimum of 2,000 hours of related work experience.

TELECOMMUNICATION SYSTEMS

Introduction

The Telecommunication Systems program prepares graduates for leadership positions in a dynamic environment. Because telecommunication professionals deal with a broad range of business and technical issues, the program emphasizes managerial, technical and science skill courses. The field of telecommunications requires application of scientific, business and technical principles together with appropriate knowledge and support research, marketing, design, and systems integrating information technology.

Students apply theory to solve real-world problems in an intensive hands-on laboratory environment that is the heart of UW-Stout's teaching strategy. Emphasis is on telecommunications technologies that impact all levels of organizations, including: telephone systems, networking data communications systems, graphics, and video imaging.

Technical courses in the concentration foster the development of understanding in systems creation, design, development, implementation, operations and management. Students take courses which provide the basic knowledge about the technical elements required in building any voice, data, and/or image telecommunication system.

Professional studies provide a solid managerial background while humanities and social science courses introduce students to methods of communications, motivation, and supervising people. Math and physical science courses help in solving technical and economic problems found in business.

Several work experience programs have been developed. Internships, field experience, independent study and cooperative education opportunities are available. You can work for a summer or semester earning college credit as well as a salary, while gaining a personal perspective of the business and technical world of the telecommunications.

Telecommunication Systems program graduates advance into telecommunications administrative and executive areas within an organization.

Program Requirements

Bachelor of Science Degree

Total for graduation	124
General Education	42
Major Studies	82

Tentative Curriculum

This information is provided only so prospective students can gain some understanding of the scope and type of courses that will be required for the degree. Some courses listed probably will be modified.

General Education

42 credits required

A. Communication Skills 8 Credits

326-101 Freshman English - Composition or	
326-111 Freshman English - Honors I	3
326-102 Freshman English - Reading and Related Writing or	
326-112 Freshman English - Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning 6 Credits

354-130 Elementary Statistics	2
355-152 Calculus for Management and Social Sciences	4

C. Health and Physical Education 2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 Credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 4 Credits

372-211 Introduction to Physics	4
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G. Technology 2 Credits

H. General Education Electives 2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

82 credits required

Managerial/Professional		32 credits
130-507	Artificial Applications in Business	2
130-581	Advanced Voice and Data Systems	4
130-582	Network Systems Design	3
130-681	Telecommunication Systems Administration	3
150-120	Quality Concepts	3
150-600	Organizational Leadership	3
160-206	Introduction to Financial Accounting	3
160-207	Corporate and Management Accounting	3
160-335	Accounting for Management Decisions	3
326-515	Technical Writing <i>or</i>	
326-546	Research Report Writing	3
391-XXX	Any Advanced Speech	2

Basic Technology		47 credits
130-281	Data Communications	3
130-283	Protocols and Interfacing Laboratory	3
130-506	Introduction to Telephony	2
130-XXX	Telecommunications Policy and Regulation	2
130-XXX	Project Design Practicum	2
184-270	Circuit Analysis	4
184-280	Networks	4
184-371	Solid State Electronics	3
184-473	Digital Logic	3
184-474	Fundamentals of Microprocessors	3
184-XXX	Signal Processing	3
184-XXX	Digital Communications	3
184-XXX	Electronic Communications	3
354-144	Computer Science I	3
354-145	Computer Science II	3
354-XXX	Database Management in Telecommunications	3

Professional Electives		3 credits
130-X49	Cooperative Education Experience	3
130-X99	Independent Study	2
XXX-XXX	Any elective	1-3

VOCATIONAL REHABILITATION

Introduction

The main objective of this program is to provide the field of rehabilitation with baccalaureate level personnel who have the competencies necessary to help persons with disabilities optimize their vocational potential. A general listing of these competencies includes:

1. Knowledge of the history, philosophy and development of the rehabilitation movement; knowledge of the rehabilitation process as it exists in various settings, including sheltered workshops, rehabilitation facilities, private rehabilitation, vocational rehabilitation agencies; knowledge of mental, physical and social disabilities plus the vocational limitations of these disabilities; knowledge of, and ability to utilize community resources to assist the handicapped; knowledge of, and ability to relate to allied professions: medicine, psychology, social work, physical therapy; and knowledge of, and ability to utilize occupational information and career planning methods.
2. Elementary skill in the use of vocational evaluation techniques; elementary skill in work adjustment and counseling techniques; and elementary skill in utilizing job placement and follow-up procedures for persons with disabilities.
3. Ability to interact effectively with persons with disabilities. This could include persons with physical, emotional and social disabilities such as mental illness, mental retardation, blindness, deafness, alcoholism, epilepsy, and those who have committed criminal offenses. The graduates of this program are employed in sheltered workshops, rehabilitation facilities, state vocational rehabilitation agencies, private rehabilitation, correctional centers, business and industry, adult day care centers, mental health clinics, halfway houses, and a variety of other settings serving persons with disabilities. Students who complete Special Education Certification are endorsed for Wisconsin licensure to teach students with cognitive disabilities, grades 6-12. Opportunities for advancement to supervisory and administrative positions are excellent. Graduate study in rehabilitation is available in more than 80 colleges and universities.

Students must select their concentration option by the end of the first semester of their junior year, including development and signed approval of an Individualized Concentration. Students who do not complete a concentration must submit a written plan showing development of a coherent selection of coursework consistent with the objectives of the degree. The plan must be submitted and approved by the program director by the end of the first semester of the junior year.

Articulation Agreement There is an approved articulation agreement for this program with the Associate of Applied Science degree in Alcohol and Other Drug Abuse from the Chippewa Valley Technical College.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	52-58 credits
Concentration, Minor or Specialization	22-28 credits
Electives	1-5 credits

Students who are taking the **Special Education Certification** concentration should turn to page 70 for program requirements. Students taking any of the other concentrations should refer to the program requirements that follow here.

Program Requirements for Vocational Rehabilitation

General Education

42 credits required

A. Communication Skills

8 Credits

326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

479-110 General Psychology	3
<i>Remaining courses must be from three or more areas including anthropology, economics, geography, political science and sociology.</i>	

F. Natural Sciences (with Lab)

4 Credits

308-134 Physiology and Anatomy for Health Sciences	4
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G. Technology

2 Credits

H. General Education Electives

2 Credits

Courses must come from categories A, B, D, E and F.

The B.S. degree in Vocational Rehabilitation is in the process of being revised. Consult with the program director for more information.

Major Studies**52-58 credits required**

A minimum grade of 2.0 is required in all rehabilitation studies. After earning 90 credits, students must maintain a 2.5 grade point average in rehabilitation studies to continue in the degree program.

308-220	Physiology of Disabilities	3
459-101	Introduction to Rehabilitation	3
459-102	Community Resources	3
459-205	Rehabilitation Practicum	4
459-230	Psycho-Social Aspects of Disabilities	3
459-310	Vocational Evaluation	4
459-401	Principles and Techniques of Caseload Management	2
459-410	Job Placement Processes	3
459-610	Psychological Testing – People with Exceptional Need	2
459-670	Work Adjustment Services	3
459-680	Principles of Rehabilitation Counseling	3
459-X98	Field Experience in Rehabilitation	2
<i>Select 7-9 credits from the following:</i>		
431-500	Introduction to Individuals With Cognitive Disabilities	3
459-325	Rehabilitation and Sensory Disability	3
459-520	Rehabilitation and Chemical Dependency	3
459-525	Rehabilitation of Public Offenders	3
459-555	Rehabilitation of the Older Disabled Worker	2
459-585	Rehabilitation and Mental Retardation	2
479-561	Abnormal Psychology	3
<i>Select 6-7 credits from the following:</i>		
459-602	Rehabilitation Program Operations	3
459-550	Independent Living	2
459-558	Rehabilitation Support System Networking	2
459-560	Technological Applications: Rehabilitation Services	2
459-601	Rehabilitation in the Private Sector	2
459-661	Forensics for the Rehabilitation Professional	2
<i>Select 4-7 credits from the following:</i>		
459-480	Advanced Rehabilitation Practicum	2
459-500	Special Topics in Rehabilitation	1
459-505	Sign Language I	3
459-506	Sign Language II	3
459-509	Introduction to Biofeedback	3
459-565	Laboratory in Rehabilitation Technology	2
459-587	Management of Employees With Disabilities	3
459-605	Microcomputer Applications in Rehabilitation	2
459-682	Sexuality and Disability	2
459-685	Group Processes in Rehabilitation Settings	2
459-X49	Rehabilitation Cooperative Education Experience	1-6
459-X99	Independent Study	1-3

Concentrations**22-28 credits required****Business****22 credits****Required Concentration Courses (13 credits)**

160-206	Introduction to Financial Accounting	3
459-480	Advanced Rehabilitation Practicum	2
459-587	Management of Employees with Disabilities	3
459-601	Rehabilitation in the Private Sector	2
459-602	Rehabilitation Program Operations	3

Restricted Concentration Selectives (9 credits)

150-200	Production/Operations Management	3
160-207	Introduction – Corporate and Managerial Accounting	3
160-235	Small Business Management	3
160-304	Principles of Management	3
160-318	Business Law I	3
160-330	Principles of Marketing	3
160-334	Salesmanship and Sales Management	3
160-340	Business Finance	3
160-355	Principles of Risk Management	3
160-690	Administration and Business Policies	3
479-582	Human Resource Management	3

Independent Living**22 credits****Required Concentration Courses (13 credits)**

413-405	Peer Counseling	3
459-480	Advanced Rehabilitation Practicum	2
459-550	Independent Living	2
459-558	Rehabilitation Support System Networking	2
459-682	Sexuality and Disability	2
479-570	Assertive Training Procedures	2

Restricted Concentration Selectives (9 credits)

140-580	Driver Education for the Handicapped	2-3
212-430	Human Development: Aging Person	2
212-554	The Single-Parent Family	1
212-660	Current Topics in Sexuality	1
229-212	Nutrition	3
229-505	Nutrition for the Aged	2
245-250	Family Housing	3
245-682	Hospitality and the Handicapped Traveler	1
387-205	Introduction to Social Work	3
387-215	Sociology of the Family	3
387-420	Child and Family Agencies	3
431-581	Legal Rights of Handicapped	2
459-685	Group Processes in Rehabilitation Settings	2
459-X99	Independent Study	1-3
479-484	Introduction to Behavior Modification	2
479-571	Introduction to Health Psychology	3

Individualized**22 credits****Required Concentration Courses – none.**

Restricted Concentration Selectives – 22 credit block chosen in conjunction with and approved by program director.

Physical Education**22 credits****Required Concentration Courses (10.5 credits)**

466-340	ARC Standard First Aid and Personal Safety	2
466-346	ARC Cardiopulmonary Resuscitation	5
466-355	Kinesiology	3
459-480	Advanced Rehabilitation Practicum	2
479-571	Introduction to Health Psychology	3

Restricted Concentration Selectives (11.5 credits)

466-101	Discovering Wellness	1
466-102	Personal Health	2
466-365	Physiology of Exercise	3
467-265	Physical Activities for Young Children	2
467-340	Camp Leadership	2
467-342	Water Safety Instructor	2
467-XXX	Any Physical Education (activity)	5

Note: No half-credit activity course may be counted both to fill physical education requirements in major and count as elective credit.

Rehabilitation Counseling**22 credits****Required Concentration Courses (16 credits)**

212-650	Introduction to Marriage and Family Therapy	3
413-405	Peer Counseling	3
459-480	Advanced Rehabilitation Practicum	2
459-520	Rehabilitation and Chemical Dependency	3
459-685	Group Processes in Rehabilitation Settings	2
479-460	Personality and Mental Health	3

Restricted Concentration Selectives (6 credits)

212-351	Death and the Family	1
212-354	Skill Training for Individual/Family Interventions	3
212-607	Parent Counseling	2
212-615	Family Stress, Coping and Adaptation	1
212-690	Death Education and Counseling in Families	2
387-420	Child and Family Agencies	3
413-444	Introduction to Group Processes	2
413-650	Behavior Problems of Adolescents	2
413-666	Alcoholism and Family Systems Intervention	2
413-694	Counseling Older Persons	2-3
431-581	Legal Rights of Handicapped	2
459-500A	Applied Biofeedback in Rehabilitation	1
459-509	Introduction to Biofeedback	3
459-510	Clinical Biofeedback Laboratory	3
459-525	Rehabilitation of Public Offenders	3
459-682	Sexuality and Disability	2
459-X99	Independent Study	1-3
479-484	Introduction to Behavior Modification	2
479-570	Assertive Training Procedures	2

Rehabilitation Technology**28 credits****Required Concentration Courses (14 credits)**

140-587	Human Factors Engineering	3
183-110	Drafting or	
304-100	Drawing I	2-3
183-205	Design for Industry	3
459-480	Advanced Rehabilitation Practicum	2
459-560	Assistive Technology	2
459-565	Laboratory in Rehabilitation Technology	2

Continued next column

Restricted Concentration Selectives (7-8 credits)

140-581	Occupational Safety/Loss Control	2-3
140-583	Voluntary OSHA Compliance	2-3
181-102	Manufacturing Materials and Processes I	3
181-103	Manufacturing Materials and Processes II	3
181-230	Metal Machining Technology	3
181-250	Plastics I	2
182-170	Light Construction Methods	2
183-234	Computer Assisted Design and Drafting	2
184-204	Electricity-Electronics Fundamentals	3
185-260	Introduction to Fluid Power	2
185-361	Industrial Hydraulics	2
185-362	Industrial Pneumatics	2
214-581	Functional Clothing Design	3
304-300	Design Theory and Methods	3
354-140	Computer Concepts	2
466-355	Kinesiology	3

Rehabilitation of the Older Person**22 credits****Required Concentration Courses (17 credits)**

212-413	Human Development: Aging Person	2
387-XXX	Sociology of Aging *	3
413-694	Counseling Older Persons	2-3
459-480	Advanced Rehabilitation Practicum	2
459-550	Independent Living	2
459-555	Rehabilitation for the Older Disabled Worker	2
459-558	Rehabilitation Support System Networking	2
459-560	Technological Applications: Rehabilitation Services	2

* Course under development.

Restricted Concentration Electives (5 credits)

212-585	Family Based Employee Assistance Programs	3
229-505	Nutrition for the Aged	2
387-215	Sociology of the Family	3
387-250	Social Psychology	3
431-581	Legal Rights of Handicapped	2
466-102	Personal Health	2
479-460	Personality and Mental Health	3
479-673	Psychology of Stress	2

Community-Based Rehabilitation**22 credits****Required Concentration Courses (18 credits)**

199-534	Task Analysis	2
431-581	Legal Rights of Handicapped	2
459-480	Advanced Rehabilitation Practicum	2
459-550	Independent Living	2
459-558	Rehabilitation Support System Networking	2
459-560	Technological Applications: Rehabilitation Services	2
459-688	Advanced Job Placement	2
459-XXX	Community Based Rehabilitation Applications *	2
459-XXX	Supported Employment *	1
459-XXX	Transitional Employment *	1

* Course under development.

Restricted Concentration Electives (4 credits)

160-115	Understanding Business	2
387-530	Sociology of the Community	3
459-587	Management of Employees with Disabilities	3
459-601	Rehabilitation in the Private Sector	2
479-484	Introduction to Behavior Modification	2
479-579	Public Relations	2

Electives**1-5 credits**

Program Requirements for the Special Education Certification Concentration

Leads to Wisconsin #806 Licensure.

General Education

42 credits required

A. Communication Skills 8 Credits

326-101	Freshman English – Composition or	
326-111	Freshman English – Honors I	3
326-102	Freshman English – Reading and Related Writing or	
326-112	Freshman English – Honors II	3
391-100	Fundamentals of Speech	2

B. Analytic Reasoning 6 Credits

355-XXX	Any Mathematics	4
Remaining course must be from areas of math, logic, statistics and computer science.		

C. Health and Physical Education 2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts* 9 Credits

326-XXX	Any Literature	3
XXX-XXX	Any Creative or Performing Arts	1-3
Remaining course(s) must be from the areas of art history, history, music appreciation, performing arts and philosophy. * Either 338-210 Modern World must be taken under this category, or 303-220 Cultural Anthropology must be taken under Category E.		

E. Social and Behavioral Sciences* 9 Credits

375-210	Government	3
479-110	General Psychology	3
Remaining courses must be from the following areas: anthropology, economics, geography and sociology. *See previous note under Category D.		

F. Natural Sciences (with Lab) 4 Credits

Choose a biology course and either a chemistry or physics course.

G. Technology 2 Credits

H. General Education Electives 2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies – Special Education Certification

41 credits required

421-303	Educational Psychology	3
421-312	Introduction to Curriculum, Methods and Assessment	2
421-326	Foundations of Education	2
421-536	Multiculturalism: Issues and Perspectives	2
421-576	Field Experience – Cross Cultural Experience	1
421-582	Secondary Reading and Language Development	2
421-310	Field Experience – Tutoring	1
459-101	Introduction to Rehabilitation	3
459-102	Community Resources	3
459-230	Psycho-Social Aspects of Disabilities	3
459-310	Vocational Evaluation	4
459-401	Principles and Techniques of Caseload Management	2
459-410	Job Placement Processes	3
459-560	Technological Applications: Rehabilitation Services	2
459-610	Psychological Testing – People with Exceptional Need	2
459-680	Principles of Rehabilitation Counseling	3
479-552	Adolescent Psychology	3
One field experience must be with the cognitively disabled—borderline, and one with the cognitively disabled—severe. At least one Field Experience must be at the junior high or middle school level and one at the senior high level.		

Concentration

40 credits required

431-481	Student Teaching Youth With Cognitive Disabilities	16
431-500	Introduction to Individuals With Cognitive Disabilities	3
431-518	Introduction to Teaching/Assessment in Special Education**	2
431-522	Curriculum and Instruction: Functional Living Skills	2
431-523	Curriculum and Instruction: Academic Skills	3
431-524	Curriculum and Instruction: Career and Transition Education	3
431-526	Practicum in Special Education	2
431-528	Assessment for Individual Educational /Transitional Plans	3
431-630	Mainstreaming Students With Exceptional Educational Needs	3
431-662	Classroom Management Techniques	3
At least 12 Special Education (431-XXX) credits plus Student Teaching must be completed at UW-Stout to be recommended for certification by UW-Stout. See pages 17 and 18 for specific requirements on admission to advanced standing, admission to student teaching, graduation and standardized teacher examinations.		

** A grade of 3.0 or better is required in 431-518 Introduction to Teaching/Assessment in Special Education. A cumulative grade point average of 2.75 is required.

Electives

1 credit required

VOCATIONAL, TECHNICAL AND ADULT EDUCATION

Introduction

This program prepares teachers for post-high school settings such as junior colleges, public and private technical colleges, and industrial training programs.

A student must obtain a minimum of 2,000 hours of appropriate work experience for provisional certification to teach vocational, technical and adult courses in Wisconsin technical colleges.

Students must make applications for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.75.

Articulation Agreement. There is an approved articulation agreement for this program with all of the Wisconsin Technical Colleges. The articulation agreement covers all Associate of Applied Art and Associate of Applied Science programs.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	75 credits
Electives	7 credits

Program Requirements

General Education

42 credits required

A. Communication Skills

8 Credits

326-101 Freshman English – Composition or	
326-111 Freshman English – Honors I	3
326-102 Freshman English – Reading and Related Writing or	
326-112 Freshman English – Honors II	3
391-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

479-110 General Psychology	3
<i>Remaining courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.</i>	

F. Natural Sciences (with Lab)

4 Credits

G. Technology

2 Credits

H. General Education Electives

2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

75 credits required

Technical

40 credits

Because each student brings different qualifications as a result of prior training and experience, the student, with the assistance of the program director, will define all 40 technical credits in terms of student and job competency needs.

Professional Education

35 credits

120-560 Audiovisual Communications	2
150-600 Organizational Leadership or	
479-582 Human Resource Management	3
190-205 Teaching Methods – Technology/Vocational Education**	2
190-405 Curriculum Technology/Vocational Education**	2
190-406 Evaluation in Technology/Vocational Education**	2
190-408 Student Teaching – Technology/Vocational Education or	
198-589 Training Internship	8
198-560 Training Systems in Business and Industry	3
199-502 Principles of Vocational, Technical and Adult Education	2
199-534 Task Analysis	2
199-674 Adult Education	2
413-501 Introduction to Guidance**	2
421-303 Educational Psychology**	3
421-536 Multiculturalism: Issues and Perspectives**	2

*** Course content is mandated for Vocational, Technical and Adult Education certification.*

Electives

7 credits required

Minors and Specializations



MINORS

Introduction

Minors are defined as either "studies in the discipline" or as "teaching." Teaching minors are those approved by the State Department of Public Instruction for certification. Requirements for the teaching minors include an education major, a methods course in the field, and some student teaching experience in the minor field in addition to the

required credits within the minor. The Approval Form for Minor Program must be submitted to the department offering the minor before starting the minor to assure an acceptable sequence of courses. Approval forms and minor program plans are available in the office of the department offering the minor.

The Aging Family

Department of Human Development, Family Living
and Community Educational Services

15 credits are required.

Required Courses

212-540	Family Caregiving to Dependent Elders	1
212-680	The Aging Person	2
212-690	Death Education and Counseling in Families	2
229-105	Applied Nutrition Topics or	
229-212	Nutrition	2-3
245-678	Financial Planning for Retirement	2

Practicum/Clinical Experience

Select 1-4 credit practicum or clinical experience from the following in addition to the nine required credits.

212-531	Hospice Clinical Experience	1-2
229-612	Clinical Experience—Community Nutrition Programs	4
242-241	Clinical Experiences in the Community	4
242-500	Externship—Home Community Education	4
459-205	Rehabilitation Practicum	4

Selectives

Select 2-5 credits from the list supplied by the department.

Art

Department of Art and Design

22 credits are required.

Required Courses

304-100	Drawing I	3
304-101	Fundamentals of Design	3
304-202	Introduction to Art	3

Selectives

The additional 13 selective credits may be accumulated to overview or concentrate in one area. Students may select courses in drawing, painting, printmaking, ceramics, art history, art metals, sculpture, interior design, industrial design and graphic design to fulfill the balance of the Art minor. A minimum of six credits must be completed at UW-Stout to receive an Art minor. A minimum grade of "C" (2.0) is required in all courses.

Biology

Department of Biology

22 credits are required

Required courses

308-132	Physiology and Anatomy or	
308-134	Physiology and Anatomy for Health Sciences	4
308-142	Botany	4
308-152	Zoology	4

Select one option from the following:

Option I:

308-306	General Microbiology	4
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Option II:

308-650	Neuroanatomy	2
308-651	Psychobiology	2

Selectives

Additional departmental offerings to complete 22 credits will be selected.

Business Administration

Department of Business

22 credits are required.

Required Courses

160-206	Introduction to Financial Accounting	3
160-207	Introduction—Corporate and Managerial Accounting	3
160-304	Principles of Management	3
160-330	Principles of Marketing	3
320-210	Principles of Economics I	3
320-215	Principles of Economics II	3

Selectives

Select 4 credits from the list supplied by the department.

Chemistry

Department of Chemistry

22 credits are required.

Required Courses

311-125	Principles of Chemistry for Health Sciences or	
311-135	College Chemistry I	5
311-136	College Chemistry II	5
311-201	Organic Chemistry I Lecture	3
311-203	Organic Chemistry I Laboratory	1

Select one of the following courses:

311-204	Organic Chemistry II Lecture	3
311-531	Quantitative Analysis	3
311-535	Instrumental Methods of Analysis	3
311-501	Physical Chemistry I Lecture and	3
311-503	Physical Chemistry I Laboratory	1

Selectives

Additional departmental offerings to complete 22 credits will be selected.

A minimum grade of "C" (2.0) is required in all chemistry courses applied toward the chemistry minor.

Coaching

Department of Physical Education and Athletics

22 credits are required.

The minor will be revised in 1996 to meet certification standards in Wisconsin and Minnesota.

Area I: Medical Emergencies (both required)

466-340	ARC Standard First Aid and Personal Safety	2
466-350	Prevention and Care of Athletic Injuries	3

Area II: Principles and Psycho-Social Foundations of Coaching

(2 credits required)

467-352	Principles and Administration of Athletics	2
467-362	Psycho-Social Aspects of Athletics	2

Area III: Methods and Strategies of Coaching (2 credits required)

467-401	Coaching Gymnastics	2
467-460	Coaching Basketball	2
467-461	Coaching Football	2
467-465	Coaching Competitive Swimming	2
467-470	Coaching Baseball	2
467-471	Coaching Track and Field	2
467-478	Coaching and Officiating Volleyball	2
467-479	Coaching Wrestling	2
467-480	Coaching Young Athletes	2

Area IV: Kinesiological and Biomechanical Foundations of Coaching

(7 credits required)

308-132	Physiology and Anatomy or	
308-134	Physiology and Anatomy for Health Sciences	4
466-355	Kinesiology	3

Area V: Physiological Foundations of Coaching (3 credits required)

466-365	Physiology of Exercise	3
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Area VI: Practicum in Coaching (required)

467-490	Practicum in Coaching	1-3
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Area VII: Selectives

Select additional courses from the list supplied by the department for the 22-credit minor.

Computer Science

Department of Mathematics, Statistics and Computer Sciences

22 credits are required.

Required Courses

354-144	Computer Science I	3
354-145	Computer Science II	3
354-241	Assembly Language Programming	3
354-341	Data Structures	3

Selectives

Select additional courses to complete 22 credits from the approved list supplied by the department.

Economics

Department of Social Sciences

22 credits are required.

Required Courses

320-210	Principles of Economics I	3
320-215	Principles of Economics II	3
320-325	Economic and Business Statistics or	
320-470	Economic Model-building and Forecasting	3
320-410	Microeconomics	3
320-415	Macroeconomics	3

Selectives

Select additional courses to complete 22 credits from the approved list supplied by the department.

English

Department of English

Teaching Option

26 credits are required.

Required Courses

326-340	The Structure of English	3
326-347	Critical Writing	3
326-355	Recent World Literature	3
326-406	Shakespeare	3
326-407	Teaching English in the Secondary and Middle School	2
326-500	Literature for the Reading Child and Adolescent	3

Select 3 credits from each of the following:

Group A

326-348	American Literature	3
326-360	Modern American Literature	3

Group B

326-401	English Literature	3
326-350	Modern British Literature	3

Selectives

Select additional courses to complete 26 credits from the approved list supplied by the department.

Note: Grades of 2.5 or better in English courses are required for the minor to be awarded.

Literature Option

15 credits are required.

Take one or more courses in each of the following categories:

Historical Perspective (3 or more credits)

326-250	Classical and Biblical Literature	3
326-348	American Literature	3
326-350	Modern British Literature	3
326-360	Modern American Literature	3
326-401	English Literature	3
326-406	Shakespeare	3
326-450	Studies in Literature	3

Cultural and Societal Perspectives (3 or more credits)

326-303	The Family in Literature	3
326-308	Fiction Into Film	3
326-355	Recent World Literature	3
326-372	Woman Writers	3
326-373	Multicultural Literature	2
326-381	Recent American Literature	3
326-450	Studies in Literature	3

Genre (3 or more credits)

326-203	American Poets	3
326-204	The Short Story	3
326-286	Detective Fiction	3
326-300	Children's Literature	3
326-304	American Folklore	3
326-380	Best Sellers	3
326-385	Science Fiction	3
326-386	Fantasy Literature	3
326-450	Studies in Literature	3

At least six credits in the minor must be taken at UW-Stout. A student must have a 2.75 GPA in those English courses presented for the minor.

Food Technology

Department of Food and Nutrition

35 credits required.

Required Courses

150-200	Production/Operations Management	3
181-280	Packaging Fundamentals	2
229-124	Foods or	
229-240	Food Science	4
229-212	Nutrition	3
229-542	Advanced Foods	3
229-638	Experimental Foods	3
229-650	Food Processing	3
308-306	General Microbiology	4
311-511	Biochemistry	4
311-515	Food Chemistry	3
372-211	Introduction to Physics	3

History

Department of Social Sciences

22 credits are required.

Required Courses

338-120	Early United States History	3
338-121	Modern United States History	3
338-140	Western Civilization	3
338-141	Western Civilization	3

Selectives

Additional departmental offerings to complete 22 credits will be selected.

Students who take a **teaching minor** must include two of the following courses:

338-322	African-American History	3
338-360	Asian History	3
338-380	Latin American History	3

Two credits of 421-305 Teaching Practicum must also be taken, in addition to the 22-credit minor.

Journalism

Department of English

22 credits are required.

Required Courses

120-504	Elementary Photography	2
130-140	Graphic Arts	2
326-307	Writing for the Media	3
326-310	Journalism Practicum	1
326-425	Copy Editing and Preparation	2

Writing Selectives

Select 3 to 10 credits from the following:

326-320	Business Writing	3
326-345	Creative Writing	3
326-346	Informational Writing	3
326-347	Critical Writing	3
326-515	Technical Writing	3

Technical Specialty Selectives

Select up to 7 credits from the following:

Projects Emphasis:

326-310	Journalism Practicum	1
326-537	Technical Writing Practicum	1-3

Public Relations Emphasis:

160-370	Principles of Advertising	3
479-579	Public Relations	2

Media Emphasis:

326-518	Mass Communication in American Society	3
391-554	Television Programming and Performance	3

Production Emphasis:

130-246	Typography	2
130-251	Composition	3
130-545	Publications Production	1

Materials

Chemistry Department

22-27 credits are required.

Required Courses

181-102	Manufacturing Materials and Processes I	3
181-103	Manufacturing Materials and Processes II	3
311-201	Organic Chemistry I	4
311-501	Physical Chemistry	3
311-503	Physical Chemistry Lab	1
311-541	Chemistry of Materials	4

Selectives

Select one course with approval of minor adviser

311-X99	Independent Study in Materials or	
311-440	Advanced Materials Laboratory	1-3

Select one option with approval of minor adviser

Option 1		
311-5XX	Chemistry of Materials II	3
Option 2		
372-531	Statics	3
372-533	Dynamics	3
Option 3		
183-293	Engineering Mechanics	3
183-294	Mechanics of Materials	3

As background for the materials minor, it is recommended that either 311-135 College Chemistry I, or 311-125 Chemistry for the Health Sciences be selected as a natural science general education course.

Mathematics

Department of Mathematics, Statistics and Computer Sciences

Teaching Certification

24 credits are required.

Twenty-two credits must be in the discipline and two credits in a teaching practicum.

Choose one option from the following:

Option 1:

354-330	Introduction to Probability and Statistics	4
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Option 2:

354-331	Probability and Mathematical Statistics I	3
354-332	Probability and Mathematical Statistics II	3

Option 3:

354-530	Statistical Methods	3
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Required Courses

354-X4X	Any formal programming language course	2-3
355-153	Calculus I or	
355-156	Calculus and Analytic Geometry I	4-5
355-154	Calculus II or	
355-157	Calculus and Analytic Geometry II	4-5
355-262	Modern Geometry	3
355-275	Linear Algebra	3
355-370	Modern Algebra I	3
421-305	Teaching Practicum	2

Selectives

Additional courses to complete 24 credits will be selected with advisement.

Non-teaching Minor

22 credits required.

Required Courses

Select one group from the following:

Group I:

355-153	Calculus I	4
355-154	Calculus II	4

Group II:

355-156	Calculus and Analytic Geometry I	5
355-157	Calculus and Analytic Geometry II	5

Select at least 9 credits from the following:

354-331	Probability and Mathematical Statistics I	3
354-332	Probability and Mathematical Statistics II	3
354-446	Numerical Analysis I	3
354-447	Numerical Analysis II	3
355-158	Calculus and Analytic Geometry II	5
355-255	Differential Equations	3
355-262	Modern Geometry	3
355-275	Linear Algebra	3
355-350	Vector Analysis	3
355-370	Modern Algebra I	3
355-371	Real Analysis I	3
355-450	Real Analysis II	3
355-460	Complex Variables With Applications	3
355-XXX	Any approved mathematics elective	2-5

Select up to 6 credits from the following:

354-141	Computer Programming – BASIC	2
354-144	Computer Science I	3
354-145	Computer Science II	3
354-240	FORTTRAN Programming	3
354-530	Statistical Methods	3

The course 354-530 may not be included if either 354-331 or 354-332 is selected.

Note: Both the teaching and non-teaching minors require a grade point of 2.0 or better in all courses applied to the minor.

Physics

Department of Physics

22 credits are required.

Required Courses.

Select one group from the following:

Group I:

372-241	College Physics I	5
372-242	College Physics II	5
312-529	Atomic and Nuclear Physics	3

Group II:

372-281	University Physics I	5
372-282	University Physics II	5
372-529	Atomic and Nuclear Physics	3

Selectives

At least 9 credits from departmental offerings with a 300 number or greater must be included in the minor program.

Property Management

Department of Hospitality and Tourism

28 credits are required.

Required Courses

150-450	Maintenance Management	2
160-206	Introduction to Financial Accounting	3
160-318	Business Law I	3
160-365	Principles of Real Estate	3
182-130	Hospitality, Living and Institutional Facility Planning	2
212-535	Seminar on Self-Growth or	
479-570	Assertive Training Procedures	2
245-200	Introduction to Property Management	2
245-381	Property Management Applications	2
245-684	Seminar in Property Management	2
245-X98	Any hospitality and tourism field experience	1-2

Selectives

Additional courses approved by adviser to complete 28 credits will be selected.

Psychology

Department of Psychology

22 credits are required.

Required Courses

479-110	General Psychology	3
479-251	Child Psychology or	
479-552	Adolescent Psychology	3
479-460	Personality and Mental Health or	
479-561	Abnormal Psychology	3

Select one course from the following:

354-130	Elementary Statistics or	
354-530	Statistical Methods	2-3
421-641	Education Evaluation	2
479-190	Psychological Research Methods	4
479-390	Experimental Psychology	3
479-690	Psychological Measurement	3

Selectives

Select 9 or more credits from any of the courses above not already taken or from the list supplied by the department.

Sociology

Department of Social Sciences

22 credits are required.

Required Courses

303-220	Cultural Anthropology	3
387-110	Introductory Sociology	3

Selectives

Additional courses to complete 22 credits will be selected from the list supplied by the department.

Note: A minimum grade of C (2.0) is required for each course in the minor. The two required courses and at least two selective courses must be completed at UW-Stout to fulfill the residency requirement.

Speech Communication

Department of Speech Communication, Foreign Language, Theatre and Music

Teaching minor

22 credits are required.

Required Courses

391-101	Forensics	1
391-102	Forensics	1
391-200	Persuasive Speaking	2
391-202	Oral Interpretation	2
391-206	Discussion	2
391-208	Theory of Communication	3
391-210	Interpersonal Speech Communication	2
391-236	Listening	2
391-310	Introduction to Speech Correction	2
391-412	Teaching Speech in Middle and Secondary Schools	2

Selectives

Additional courses to complete 22 credits will be selected.

A minimum grade point average of 2.75 with no grade lower than "C" is required. At least six (6) credits of the minor must be from courses offered by the UW-Stout Speech department to fulfill the residency requirement.

Discipline Minor

17 credits are required.

Required Courses

391-100	Fundamentals of Speech	2
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Selectives

Additional courses to complete 17 credits will be selected from the list supplied by the department and approved by the Speech Minor adviser to best fulfill your individual, career and academic needs.

Technical Writing

Department of English

15 credits are required.

Required Courses

326-425	Copy Editing and Preparation	2
326-515	Technical Writing	3
326-535	Writing Technical Manuals	3
326-537	Technical Writing Practicum	1-3

Select two courses from the following:

300-X49	Cooperative Education Program in Liberal Studies	2-8
326-307	Writing for the Media	3
326-346	Informational Writing	3
326-410	Writing and Selling Feature Articles	2

Tourism

Department of Hospitality and Tourism

24 credits are required.

Required Courses

245-240	Introduction to Tourism and the Travel Industry	2
245-340	Development of Tourism Attractions	3
245-341	Tourism Goods and Services	3
245-640	Sociocultural System of Tourism	3
245-645	Geography of Tourism	3
245-682	Hospitality and the Handicapped Traveler	1

Select 4 credits from the following:

328-101	Elementary French I	4
328-102	Elementary French II	4
329-103	Elementary Spanish I	4
329-104	Elementary Spanish II	4

A comparable number of credits in a well-known language used in travel and trade may be substituted.

Selectives

Five credits required.

Traffic Safety Education

Safety and Loss Control Center

22 credits are required.

Required Courses

140-271	Safety principles and Practices	3
140-374	Driver Education Laboratory Methods and Techniques	3
140-375	Driver and Traffic Safety	3
140-574	Alcohol, Drugs and Accident Prevention	3
140-575	Behavioral Approach to Accident Prevention	3

Select 7 credits from the following:

120-560	Audiovisual Communications	2
140-581	Occupational Safety/Loss Control	2-3
190-205	Teaching Methods Technology/Vocational Education	2
190-405	Curriculum Technology/Vocational Education	2
242-201	Presentation Strategies for Home Economics	2
242-301	Home Economics Curriculum	3
413-501	Introduction to Guidance	2
421-303	Educational Psychology	2
466-340	ARC Standard First Aid and Personal Safety	2

Vocational Rehabilitation

Department of Rehabilitation and Counseling

22 credits are required.

Required Courses

459-101	Introduction to Rehabilitation	3
459-102	Community Resources	3
459-205	Rehabilitation Practicum	4
459-230	Psychosocial Aspects of Disability	3

Selectives

Additional departmental offerings to complete 22 credits will be selected.

Women's Studies

School of Liberal Studies

22 credits are required.

Required Courses

300-510	Introduction to Women's Studies	2
300-511	Topics in Women's Studies	1-3
326-372	Women Writers	3
387-275	Sociology of Sex Roles	3
479-574	Psychology of Women	2

Selectives

Additional courses to complete 22 credits will be selected with the approval of the adviser.

SPECIALIZATIONS

Introduction

A specialization is a program of study, with carefully constructed learning goals and experiences, and evaluation procedures. UW-Stout offers specializations in International Studies, Professional Writing, Public Relations/Public Information, and Training and Human Resource Development.

While course work may be included in the specialization, students may also work to meet the learning goals through internships, working with a mentor, successfully completing a proficiency examination or certification examination, or other non-classroom experiences. Courses

may come from several departments and involve faculty from several disciplines.

Courses taken to complete a specialization may also fit elsewhere in a student's program of study. In some cases, an all-university specialization may not increase the length of time required to complete a degree; in other cases, additional time may be needed.

Students who complete a specialization will have the specialization recorded on their transcript and will receive a certificate of completion.

International Studies

As the world moves toward the 21st century, people in all countries and cultures are increasingly interacting with each other. Many UW-Stout graduates find work in multinational businesses and international tourism. Others go into the Peace Corps or other types of international volunteer work. Many more use their leisure time for travel or study abroad. Even those who never venture abroad find their professional, civic and personal lives impacted by the expansion of international relationships.

The International Studies specialization at UW-Stout is flexibly designed to offer students an opportunity to better understand other cultures and international relationships, and to compete more successfully in the workplace. The specialization requires all students to complete six core courses or their equivalents, then select an option that best meets their interests and needs.

All students in the specialization are strongly encouraged to plan work or study experience abroad.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
<i>Complete 15-18 credits as required below.</i>		
1.0 Develop understanding of international relations.	375-340 International Relations 3	Exams, papers and reports – 2.0 grade point average.
1.1 Develop understanding of concepts used to analyze international relations.	<i>or equivalent course work abroad.</i>	
1.2 Recognize participants and patterns of international relationships.		
1.3 Identify and analyze global problems arising from international relations.		
2.0 Develop understanding of cultural variation and analysis.	<i>Select 2-3 credits from the following:</i>	Exams, papers and reports – 2.0 grade point average.
2.1 Develop understanding of concepts used to analyze cultural variation.	212-685 Seminar—The Culturally Distinct Child and Family 2	
2.2 Recognize and begin to understand the complexity of cultural variation that exists in the world.	303-220 Cultural Anthropology 3	
2.3 Develop a cross-cultural approach to analyzing international problems.	421-536 Multiculturalism: Issues and Perspectives 2	
	<i>or equivalent course work abroad</i>	
3.0 Develop understanding of the geography and peoples of the world.	336-104 World Geography 3	Exams, papers and reports – 2.0 grade point average.
3.1 Develop understanding of geographical concepts.	<i>or equivalent course work abroad.</i>	
3.2 Recognize components of the physical setting in which cultures exist and international relations occur.		
3.3 Recognize and analyze the relationships between the physical world, on the one hand, and cultural variation and international relations on the other.		
4.0 Develop introductory knowledge of a second language.	<i>Equivalent of two semesters of college-level language study in one language – 8 cr.</i>	Exams, papers and reports averaging a grade of 2.0 or certification of equivalent level of proficiency by the language faculty.
5.0 Develop introductory knowledge of the history, culture and/or social institutions of a country or region other than one's own.	<i>One 2-3 credit area studies course. Students are encouraged to take this course work abroad. Students not going abroad should select one of the following courses:</i>	Exams, papers and reports – 2.0 grade point average.
	300-220 Modern China and Japan 3	
	300-250 Soviet Seminar Tour 2	
	300-X99 Independent Study 1-3	
	338-315 History of East-Central Europe 3	
	338-320 History of Russia 3	
	338-340 English History 3	
	338-360 Asian History 3	
	338-380 Latin American History 3	
	365-315 Eastern Philosophy 3	
6.0 Integrate knowledge with experience in another country or culture.	<i>Select one of the following courses/experiences:</i>	Exams, papers and reports – 2.0 grade point average.
6.1 Study or work in another culture.	212-686 Experience: The Culturally Distinct Child and Family 1	
6.2 Appreciate diversity of cultural values.	300-X99 Independent Study 1-3	
6.3 Integrate intercultural experiences with other knowledge about international relations.	421-576 Field Experience—Cross Cultural Experience 1	
	500-XXX Enrollment in international exchange program, or for credit in a study abroad program for a semester or summer term. Completion of exchange or study abroad program would fulfill this objective.	

Specialized Learning Objectives	Learning Activity	Evaluation	
Option A: International Business			
A1.0 Develop understanding of international business practices.	Complete 9 credits or equivalent courses abroad.	Exams, papers and reports – 2.0 grade point average.	
A2.0 Develop understanding of international trade, development, marketing, finance, business law, management and/or transportation.	160-260 Introduction to International Business 3		
	Select 6 credits from the following:		
	160-520 Seminar 1-3		
	160-538 International Logistics 3		
	160-540 International Business Finance 3		
	160-585 International Marketing 3		
	160-588 International Business Practicum 3		
	320-425 Economic Development 3		
	320-680 International Trade 3		
	International internship, co-op, field experience or independent study abroad 1-3		
Option B: International Tourism			
B1.0 Identify international components of the tourism industry.	Select 7-9 credits or equivalent courses abroad:	Exams, papers and reports – 2.0 grade point average.	
B1.1 Recognize the economic role of tourism in a global economy.	245-240 Introduction to Tourism and the Travel Industry 2		
B1.2 Recognize the role of government in planning/development of tourism.	245-640 Sociocultural System of Tourism 3		
B1.3 Analyze current issues related to international tourism.	245-645 Geography of Tourism 3		
B1.4 Analyze/become familiar with hospitality and tourism publications.	245-681 Special Problems in Habitational Resources 2		
B2.0 Assess quality and quantity of selected tourism resources throughout the world.	International internship, co-op, field experience or independent study abroad 1-3		
B2.1 Analyze spatial patterns of connection, circulation, interaction, transportation and communication associated with the geography of tourism.			
B2.2 Analyze international tourism's locational trends.			
B2.3 Develop world map reading skills related to tourism.			
B3.0 Analyze current tourism topics.			
B4.0 Experience working in tourism industry abroad.			
Option C: Language Studies			
Includes the 8 credits from the core requirement			
C1.0 Develop ability to communicate in a second language.	Equivalent of two years of college-level study of one foreign language. Internship, co-op, field experience or other evidence of language use with native speakers is strongly encouraged.	Exams, papers and reports – 2.0 grade point average; or certification of equivalent level of proficiency by the language department.	
Option D: Area Studies			
D1.0 Increase understanding of the history, culture and social institutions of a country or region other than one's own.	Select 8-9 credits from the following: Internship, co-op, field experience or independent study abroad 1-3 (Students are encouraged to take area studies abroad and/or select appropriate courses from list in 5.0 of core objectives.)	Exams, papers and reports – 2.0 grade point average.	
Option E: Comparative Education			
E1.0 Develop an understanding of the sociopolitical context of education in other countries.	Select 6 credits or equivalent courses abroad:	Exams, papers and reports – 2.0 grade point average.	
E2.0 Develop an understanding of teaching practice appropriate to other countries.	421-502 Global Perspectives for Educators 3		
	421-XXX Comparative Education 3		
	Student teaching, internship, co-op, field experience or independent study abroad 1-3		
Option F: Apparel Design/Manufacturing – Retailing			
F1.0 Increase understanding of international economic trends influencing textiles, clothing and related areas.	Complete 8-9 credits or equivalent courses abroad:	Exams, papers and reports – 2.0 grade point average.	
F2.0 Develop understanding of international centers serving the fashion, clothing, textiles and related arts area.	214-519 International Economic Trends in Textiles and Clothing 3		
F3.0 Increase understanding of international historical influences on present day fashion and clothing.	Select 5-6 credits from the following:		
	214-610 History of Costume – Ancient to European 3		
	214-611 History of Fashion – 19th Century to Present 3		
	214-617 Social/Psychological Aspects of Clothing 3		
	and/or select up to 3 credits from the following:		
	214-477 Study Abroad – American Fashion College 3		
	214-605 International Study Tour to the Fashion Industry 2-3		
	International internship, co-op, field experience or independent study abroad 1-3		
Option G: International Apparel Manufacturing			
G1.0 Increase understanding of international economic trends influencing textiles, clothing and apparel manufacturing.	Complete 10-12 credits from the following courses or equivalent courses abroad:	Exams, papers and reports – 2.0 grade point average	
G2.0 Analyze sourcing strategies for apparel products and manufacturing.	Required		
G3.0 Develop understanding of international business practices through formal course work and/or field experience.	160-260 International Business 3		
	214-519 International Economic Trends in Textiles/Clothing 3		
	214-671 International Sourcing 3		
	Select one of the following courses:		
	160-585 International Marketing 3		
	214-605 International Study Tour to the Fashion Industry 2-3		
	320-680 International Trade 3		
	International internship, co-op or field experience 1-3		

Professional Writing

The Professional Writing specialization, unlike other programs at UW-Stout, is creation-oriented not production-oriented.

The specialization addresses an area of critical importance—clearly communicating information. The program is intended for those who wish to gain professional writing skills to help them find employment, and those who wish to improve their writing skills to gain promotions

or explore new career directions. Graduates of this program will be able to clarify technical concepts for a wide range of audiences, especially non-technical ones.

The specialization will integrate various elements of degree programs—writing, public relations, design, graphic arts and others—in one efficient package.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Interact with clients in order to produce their documents.	Follow a sequence of activities, under supervision, to produce a document, starting with an initial interview and progressing to a final document. 326-310 Journalism Practicum 1 326-399 Independent Study or 326-X49 Cooperative Education Program in Liberal Studies 2-3 326-537 Technical Writing Practicum* 2-3 479-579 Public Relations* 2 479-679 Advanced Public Relations 2	1. Review of completed documents by teacher. 2. Acceptance of document by client. 3. Client's evaluation of writer as having adequately performed at all stages in the sequence—use questionnaire.
2. Design documents according to client specifications.	Under supervision of a teacher, learn basic principles of document design. Under supervision of a teacher, determine client's design needs. Produce document. 326-310 Journalism Practicum 1 326-399 Independent Study or 326-X49 Cooperative Education Program in Liberal Studies 2-3 326-537 Technical Writing Practicum* 2-3 479-579 Public Relations* 2 479-679 Advanced Public Relations 2	1. Review of completed design by teacher. 2. Acceptance of design by client.
3. Write and produce a final document by following a logical production procedure.	Structure sequence of activities that teach students the stages of interacting with a printer to produce a final version of a document. 130-140 Graphic Arts* 2 130-246 Typography 2 130-509 Business Applications in Desktop Publishing 1-2 130-545 Publications Production 2 304-210 Letter Form Design 3 326-399 Independent Study or 326-X49 Cooperative Education Program in Liberal Studies 2-3 326-537 Technical Writing Practicum* 2-3	1. Evaluation of writing by teacher—oral, exercises. 2. Acceptance of text by client. 3. Presentation of final document by writer. 4. Teacher's evaluation of adequate performance at all stages in the sequence—observations.
4. Adapt, direct and produce information for a particular audience.	Structured sequence of activities which train students in concepts of audience adaptation and develop flexibility in adapting to audience. 326-310 Journalism Practicum 1 326-320 Business Writing 3 326-346 Informational Writing 3 326-399 Independent Study or 326-X49 Cooperative Education Program in Liberal Studies 2-3 326-425 Copy Editing and Preparation* 2 326-515 Technical Writing 3 326-537 Technical Writing Practicum* 2-3	1. Teacher evaluation that student has conceptual knowledge of adapting for an audience—tests, exercises. 2. Teacher evaluation that student has flexible ability in adapting for an audience—exercises.
5. Organize and present written material in a clear, concise manner.	Structured sequence of activities which train students in organizing for a particular audience situation. 326-301 Advanced Grammar* 2 326-310 Journalism Practicum 1 326-320 Business Writing 3 326-346 Informational Writing 3 326-399 Independent Study or 326-X49 Cooperative Education Program in Liberal Studies 2-3 326-425 Copy Editing and Preparation* 2 326-515 Technical Writing 3 326-537 Technical Writing Practicum* 2-3	1. Teacher evaluation that student has acceptable conceptual knowledge of organization and concise presentation—exercises. 2. Teacher evaluation that student has flexibility in presenting different organizations—exercises. 3. Acceptance of text by client.
6. Produce information according to business and industry standards of style.	Structured sequence of activities which train students in style concepts and flexibility. 326-301 Advanced Grammar* 2 326-307 Writing for the Media 3 326-320 Business Writing 3 326-346 Informational Writing 3 326-399 Independent Study or 326-X49 Cooperative Education Program in Liberal Studies 2-3 326-515 Technical Writing 3	1. Teacher evaluation that student has acceptable level of style conceptual knowledge—tests, exercises. 2. Teacher evaluation that student has acceptable style flexibility—exercises. 3. Acceptance of text by client.

* Required courses. A student may petition the specialization program director for an exception to the required courses based upon prior experience and may choose another course in the block. This specialization requires a minimum of 12 credits (10 credits of required courses and 2 credits of electives).

Public Relations/Public Information

This specialization is a suitable support program for undergraduate students enrolled in any program the university offers. Virtually every area of professional preparation can benefit from the study of public relations/public information. Institutions and organizations are increasingly aware of the need for sound management practices when dealing with publics and the value of those practices to society.

If UW-Stout students are to achieve their professional goals, they must be competent in developing relationships with many different organizations and understanding the attitudes and values represented by those organizations. Students completing this specialization would be better able to utilize professional communication skills, play an

integrative role in organizational management, assist in the definition and implementation of policy, and represent the organization's rights and responsibilities to the various publics.

Students should apply for the specialization one year before completing the requirements for it. To be admitted to the specialization, a student must have completed 12 credits in the behavioral and/or social sciences and six credits in business or business-related course work.

The specialization will be awarded to the student once all course work required for it has been completed and a minimum 3.0 grade point average has been earned in those courses.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Anticipate and identify public opinion.	Complete the following courses: 479-577 Consumer Psychology 3 479-579 Public Relations 2	Demonstrate recognition and comprehension of public opinion through minimum 2.75 grade point average on course expectation.
2. Interpret and communicate public opinions' effect on the plans and operations of an organization.	Complete the following courses: 479-577 Consumer Psychology 3 479-579 Public Relations 2	Demonstrate the ability to assess the effect of public opinion on organizations through minimum 2.75 grade point average on course expectation.
3. Recognize socially responsible behavior on the part of organizations.	Complete the following courses: 365-375 Personal and Professional Ethics 3 479-577 Consumer Psychology 3 479-579 Public Relations 2	Demonstrate ability to identify organizational behavior that is socially responsible through minimum 2.75 grade point average on course expectation.
4. Anticipate public reaction to organization's policy decisions and courses of action.	Complete the following courses: 391-200 Persuasive Speaking 2 479-679 Advanced Public Relations 2	Demonstrate awareness of public reaction to organizational activity through minimum 2.75 grade point average on course expectation.
5. Enhance the organizational image through advice to management.	Complete the following courses: 391-200 Persuasive Speaking 2 479-679 Advanced Public Relations 2	Demonstrate talent to provide sound advice regarding organizational image through minimum 2.75 grade point average on course expectation.
6. Design and conduct organizational audits (using approved public relations research techniques).	Work on problem-based projects from the following: 479-579 Public Relations 2 479-679 Advanced Public Relations 2 479-693 Field Practicum in Public Relations Specialization 1-3	Provide evidence of ability to develop tools for assessment and investigation of external and internal publics.
7. Compile and analyze data.	Work on problem-based projects from the following: 479-579 Public Relations 2 479-679 Advanced Public Relations 2 479-693 Field Practicum in Public Relations Specialization 1-3	Demonstrate comprehensive analysis through reports and presentations.
8. Set objectives, plan and budget resources for public relations/public information activities.	Complete the following courses: 479-679 Advanced Public Relations 2 479-693 Field Practicum in Public Relations Specialization 1-3	Provide evidence of ability to set program goals and objectives and develop program budget.
9. Develop program strategies.	Complete the following courses: 130-103 Communication and Information Technology 3 326-346 Informational Writing 3 479-679 Advanced Public Relations 2	Demonstrate ability to select appropriate audience, messages and media to carry out program goals and objectives through reports from field supervisors.
10. Implement campaigns to influence organizational goals.	Complete the following courses: 130-103 Communication and Information Technology 3 326-346 Informational Writing 3 479-679 Advanced Public Relations 2	Demonstrate ability to accomplish campaigns/programs through reports from field supervisors.
11. Evaluate public relations/public information programs.	Work on problem-based projects from the following: 479-579 Public Relations 2 479-679 Advanced Public Relations 2 479-XXX Practicum Experience 1-3	Provide evidence of campaign/program success or failure through examination and evaluation of actual outcomes.

Training and Human Resource Development

Education is not the sole province of schools. Programs of instruction are conducted by many businesses, industries, in the military, and by other groups and organizations. Planning and providing this instruction is the province of professionals usually identified as "trainers." In our technological society, training programs have become increasingly complex and demands on trainers have increased. Greater expertise on their part is required. This all-university specialization addresses needs for

preservice and in-service education for trainers.

This program is intended for students who have expertise in areas such as engineering, technology, education, business, government, military and labor, and who desire to become involved in development and implementation of training programs. Contact the Office of the Dean, School of Industry and Technology, for further information.

Requirements for the Specialization

Note: Courses numbered 700 and greater are open to graduate students only.

Intended Outcome	Learning Activity	Evaluation
1. Introduction to concepts of training and human resource development.	198-560 Training Systems in Business and Industry 3	
2. Utilize acceptable analysis procedures in determining training needs in the trainer's professional area.	198-589 Training Internship 2-8 199-534 Task Analysis 2 <i>Select one of the following:</i> 150-600 Organizational Leadership or 479-582 Human Resource Management 3	Successful completion of courses at left (7 credits). Successful completion of the contractual agreement of the internship as determined by the UW-Stout supervisor in consultation with the business, industry, government or military supervisor, and successful completion of a field report. (Minimum 4 credits)
3. Design a training program based on established needs.	120-560 Audiovisual Communications 2 198-589 Training Internship 2-8 <i>Complete a course from the appropriate school in curriculum development or course construction (2-3 credits) such as:</i> 190-638 Course Construction 2 196-401 Marketing Education Curriculum 3 199-638 Course Construction for Vocational Educators 2 242-301 Home Economics Curriculum 3 421-438 Curriculum Development 2 <i>Complete a course on the psychology of learning (2 credits) such as:</i> 199-674 Adult Education 2 421-303 Educational Psychology 3 479-530 Psychology of Learning 3 <i>Complete a course on teaching methods or strategies (2 credits) such as:</i> 196-301 Marketing Education Methods 4 199-605 Methods of Teaching Vocational Education 2 242-201 Presentation Strategies for Home Economics 2 421-714 Teaching Strategies 4	Successful completion of courses at left (minimum 8 credits). Successful completion of the contractual agreement for the internship as evaluated by the business, industry, government or military supervisor, and by the UW-Stout supervisor. Completion of a field report is required.
4. Implement and coordinate a training program; design and teach training courses.	198-589 Training Internship 2-8	Successful completion of the contractual agreement for the internship. Success is evaluated by the business, industry, government or military supervisor, and by the UW-Stout supervisor. Completion of a field report is required.
5. Evaluate the effectiveness of training courses or programs.	198-589 Training Internship 2-8 <i>Complete a course on evaluation and/or program evaluation (2 or 3 credits) such as:</i> 199-640 Instructional Evaluation in Vocational Education 2 242-710 Applied Evaluation in Home Economics 2 421-641 Education Evaluation 2 421-742 Program Evaluation 3	Successful completion of a course at left. (Minimum 2 credits). Successful completion of the contractual agreement of the internship as evaluated by the business, industry, government or military supervisor, and the UW-Stout supervisor. Completion of a field report is required.

Course Descriptions



Interpreting Course Descriptions

Curricular Codes

UW-Stout uses a six-digit course numbering system. The first three digits designate the curricular code.

- 100 Interdepartmental
- 120 Media Technology
- 130 Graphic Communications
- 140 Safety and Loss Control
- 150 Industrial Management
- 160 Business Administration
- 181 Manufacturing
- 182 Construction
- 183 Design, Research and Development
- 184 Electricity/Electronics
- 185 Power
- 186 Transportation/Energy
- 190 Industrial Teacher Education
- 195 Technology
- 196 Marketing Education
- 198 Training and Human Resource Development
- 199 Vocational Education
- 200 Interdepartmental
- 212 Human Development and Family Living
- 214 Apparel, Textiles and Design
- 229 Food and Nutrition
- 242 Home Economics Education
- 245 Hospitality and Tourism
- 300 Interdepartmental
- 303 Anthropology
- 304 Art and Design
- 305 Art Education
- 308 Biology
- 311 Chemistry
- 312 Industrial Hygiene
- 320 Economics
- 326 English and Journalism
- 328 French
- 329 Spanish
- 330 Chinese
- 331 German
- 336 Geography
- 338 History
- 354 Applied Mathematics
- 355 Mathematics
- 360 Music
- 365 Philosophy
- 372 Physics
- 375 Political Science
- 387 Sociology
- 391 Speech
- 400 Interdepartmental
- 413 School Counseling
- 421 Education
- 431 Special Education
- 439 Counseling
- 459 Vocational Rehabilitation
- 466 Physical Education and Athletics
- 467 Physical Education and Athletics
- 479 Psychology
- 489 School Psychology
- 500 Transdisciplinary

Course Level

The second three digits of the course number refer to the course level. The 100 series is primarily for freshmen; 200 – sophomores; 300 – juniors; and 400 – seniors. The 500 series is junior/senior level but is also appropriate for graduate credit. The 600 series is senior and graduate level.

Credits

One credit hour usually represents one hour of class time per week plus two hours of out of class study.

130-366 Image Transfer 3 Credits

Preparation of image carriers and printing on paper and other substrates; lithography, flexography, gravure, screen printing, electrostatics, and associated procedures for transferring images from film to substrate; reproducing line and half-tone copy in one or more colors; image/film assembly, step and repeat, multiple page imposition, platemaking, press systems, densitometry, ink, paper problems and quality control.

P: 130-140 or consent of instructor. \$ FW

Course Planning Codes

Codes following the descriptions help you as you plan your course schedules.

P = Prerequisites are required as described.

\$ = A special course fee applies.

R = Course is repeatable for credit.

GEXXXXX XXX* = General Education course.

*The letters which follow **GE** indicate the particular general education category the course applies to. See page 22, General Education Requirements, for further clarification if needed.

ES-A = Ethnic Studies level A course.

ES-B = Ethnic Studies level B course.

ES-C = Ethnic Studies level C course.

F = Course is offered during fall semester. †

W = Course is offered during winter semester. †

S = Course is offered during summer session. †

† These codes serve only as a general guide and do not guarantee that a course will be offered during a particular semester. Uncoded courses follow no usual pattern.

The Registration and Records Office publishes the "Timetable," prior to fall and winter semesters, which lists the courses offered in a particular semester and the "Summer Session Early Bulletin for On-Campus Students," which lists the courses offered in a particular summer session. The most current lists of course offerings in a particular semester are available online at:

gopher://stoutinfo.uwstout.edu:70/11/acad_progs/opencourses

Interdepartmental – 100

100-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

100-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

100-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

100-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

100-500 Introduction to Futures Study 2 Credits

Methods of future projection, orienting thought toward future alternatives; impact of future problems on major areas of human activity. F

100-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

100-590 Technical Service Schools .5-6 Credits

Some special-purpose technical courses offered by manufacturers are suitable for college credit. Guidelines: (1) student makes all arrangements with manufacturer offering course; (2) one credit is awarded for each full week (40 hours) of attendance; (3) student enrolls and pays fees at university prior to taking course; (4) approval of dean of school of industry and technology needed before enrolling for credit; (5) Graduate College approval required for students taking course for graduate credit. S

100-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

Media Technology

120-180 Microcomputer Applications – Words/Data 2 Credits

Applications of specific commercial microcomputer programs for personal, professional and student use. Emphasis on word processing, numerical and file management programs. WS

120-504 Elementary Photography 2-3 Credits

Fundamentals of photography: aesthetics, basic theory, camera operation, film selection, lighting, roll-film processing, contact printing, enlarging and print finishing. Student must provide own camera. \$ FWS GEHUMART CR/PRF

120-535 Film – History and Appreciation 3 Credits

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted film producers. F

120-560 Audiovisual Communications 2 Credits

Methods of evaluating and using audiovisual materials effectively; experience in operating equipment; basic techniques of media preparation. FWS

120-561 Advanced Graphic Production 2 Credits

Advanced techniques for planning, designing and producing materials for instruction and graphic training. P:120-560. \$ FWS

120-570 Computer-Assisted Interactive Video 3 Credits

Design, production and evaluation of interactive video applications. Analysis of various hardware and software systems.

P: consent of instructor or curriculum course. \$ S

120-600 Workshop 1-3 Credits

Special topics in media technology providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. R FWS

120-600A Workshop 1-3 Credits

Special topics in media technology providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. R FWS

120-605 Advanced Photography 2 Credits

Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques; studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques. P: 120-504. \$ FWS

120-610 Delivery Systems for Training 3 Credits

Overview and selection criteria of instructor-led, computer-based, and distance learning systems for delivering content to trainees in the workplace. Includes the development of training materials in a variety of formats.

P: computer literacy and consent of instructor. FWS

120-612 Nature Photography 2 Credits

Fundamentals of camera techniques composition, aesthetics, exposure and light in relationship to animals, plants, water, weather and landscapes. Special emphasis on proper photographic equipment and field techniques for nature photography. P: 120-504 or consent of instructor. Camera required. FWS

120-614 Slide Duplication and Copystand Techniques 1 Credit

Selection and use of equipment for copystand work and slide duplication; discussion of and practice with filters and multiple exposures.

P: 120-504 or consent of instructor. S

120-630 Audio/Film Production Fundamentals 3 Credits

A survey of audio and video production fundamentals applied to the process of instructional communication. **FS**

120-640 Telecommunication Systems and Teleconferencing 2 Credits

Interactive teleconferencing techniques, applications, effective utilization and cost-effectiveness of information distribution systems, including telephone, television, teletext, videotext, viewdata, cable TV, slow-scan TV, and computers. Survey of transmission systems, including telephone lines, satellites, coaxial cable, microwave and fiber optics. **FWS**

120-645 Color Photography 2 Credits

Aesthetics, color theory, film selection, lighting, copy techniques, slide duplication, reversal and negative color film processing, and color printing.

P: 120-504. **\$ FWS**

120-654 Small Format Video Production 1 Credit

Selection of small format video systems to meet varied production needs. Planning and shooting video programs using BETA or VHS camcorders or 8mm equipment. Participants must provide their own personal or institutional video equipment. **S**

Graphic Communications**130-103 Communication and Information Technology 3 Credits**

Limits and possibilities of various communication components and systems applied to the solution of communication problems in business and industry. Intended for general business administration students. Credit not available to students who have completed 130-100. **FWS GETECH**

130-140 Graphic Arts 2 Credits

Concepts of reproducing visual images, design and layout, composition, photo conversion, image carriers, image transfer, finishing and binding, and economics of graphic arts. **\$ FWS**

130-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

130-197 Field Experience 1 Credit R FWS**130-198 Field Experience 1-2 Credits FWS****130-246 Typography 2 Credits**

Printing and art mediums, photography, layout and keylining, type classification and selection, composition practices, color systems and materials. Lab work in preparing copy for production. **P:** 130-140 or consent of instructor. **\$ FW**

130-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

130-251 Composition 3 Credits

Photo-typesetting; photo-lettering, text and editing systems; pasteup and copy preparation techniques; copyfitting, word and image processing, telecommunications and interfacing to computer systems.

P: 130-140 or consent of instructor. **\$ FW**

130-263 Flexography and Gravure 2 Credits

Flexographic and rotogravure printing processes. Design for flexo and gravure, film and image assembly, plate and cylinder preparation and printing by the two processes. Present applications and future trends. **P:** 130-140. **\$**

130-281 Data Communications 3 Credits

Terminology, systems, services, technologies, costs and applications of data communications. **P:** 130-103. **F**

130-283 Protocols and Interfacing Laboratory 3 Credits

Common and de facto standard telecommunication protocols used for interface control, flow control, and for data link control. Diagnose telecommunication interface problems with representative equipment. **P:** 130-281. **FW**

130-297 Field Experience 1 Credit R FWS**130-298 Field Experience 1-2 Credits FWS****130-349 Cooperative Education Experience 1-8 Credits**

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

130-355 Line and Halftone Photography 2 Credits

High contrast photography in graphic reproduction processes, dealing with line, halftone, duo-tone, and special-effect film negatives and positives.

P: 130-140 or consent of instructor. **\$ FWS**

130-366 Image Transfer 3 Credits

Preparation of image carriers and printing on paper and other substrates; lithography, flexography, gravure, screen printing, electrostatics, and associated procedures for transferring images from film to substrate; reproducing line and half-tone copy in one or more colors; image/film assembly, step and repeat, multiple page imposition, platemaking, press systems, densitometry, ink, paper problems and quality control. **P:** 130-140 or consent of instructor. **\$ FW**

130-370 General Binding 2 Credits

Finishing, fastening and covering printed materials: mechanical, loose-leaf, wire staple, sewn and perfect binding. **P:** 130-140 or consent of instructor. **\$ FWS**

130-397 Field Experience 1 Credit R FWS**130-398 Field Experience 1-2 Credits FWS**

130-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

130-475 Printing Economics 3 Credits

Estimating production costs, specification of equipment, production scheduling, facility planning, materials inventory and control, and systems that expedite graphic reproductions. P: 130-140. \$ FW

130-497 Field Experience 1 Credit R FWS**130-498 Field Experience 1-2 Credits FWS****130-500 Workshop 1-3 Credits**

Special topics in graphic communications, providing hands on or experiential learning activities. Specific content and title to reflect the topic of the workshop. R FWS

130-504 Communications and Information Systems 1-3 Credits

Overview of the communications industry. Use of systems to create, process, transmit, receive and evaluate information. P: 130-103. FWS

130-505 Office Automation Technology 3 Credits

Automation information concepts and technology used in office including both communication, storage, and retrieval systems. Emphasis on cost effective selection and implementation problems.

P: 130-103 or consent of instructor. FWS

130-506 Introduction to Telephony 2 Credits

Principles of current technologies, systems, and trends in telephone communication systems design and applications. FWS

130-507 Artificial Intelligence Applications in Business 2 Credits

Artificial intelligence applications in business and industry with emphasis on office information system characteristics and implementation. P: 130-505. FW

130-509 Business Applications in Desktop Publishing 1-2 Credits

Office automation and information systems for generating business formats on a computer network. Computerized forms, summaries, and related graphics utilizing automated pagination software, and existing software systems print commands with laser printer characteristics. FWS

130-543 Graphic Arts Production Techniques 2 Credits

The study of techniques associated with the production of two-dimensional printed media, with emphasis on design, production and evaluation, also including client and printer relationships. P: 130-366. R FWS

130-545 Publications Production 2 Credits

Principles of designing, printing and distributing publications for business, education and industry. P: 130-140. \$ FWS

130-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

130-557 Color Separation 2 Credits

Color separation from reflected and transmission copy, filters and densitometry, direct and indirect photographic color separation methods.

P: 130-355 or consent of instructor. \$ W

130-561 Screen Printing .5-2 Credits

Screen printing technology — applications, components and techniques. Survey of various materials and equipment used in screen printing. Production of screen printed products. P: 130-140 or 304-518 or consent of instructor. \$ FW

130-581 Advanced Voice and Data Systems 4 Credits

Digital communications theory as applied to voice applications and the design and management of a data communication network. P: 130-283. F

130-582 Network Systems Design 3 Credits

Analysis, design and implementation considerations of a telecommunications network. P: must be enrolled in telecommunication concentration or consent of instructor. W

130-595 Seminar 1-2 Credits

Title will reflect specific graphic and industrial communication content. Current and projected communication methods, concepts, technologies and innovations in graphic communications. RS

130-597 Field Experience 1 Credit R FWS**130-598 Field Experience 1-2 Credits FWS****130-649 Cooperative Education Experience 1-8 Credits**

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

130-681 Telecommunications Systems Administration 3 Credits

Issues and concerns required to manage telecommunications networks and contemporary problems. P: must be enrolled in telecommunication concentration or consent of instructor. F

130-697 Field Experience 1 Credit R FWS**130-698 Field Experience 1-2 Credits FWS**

Safety and Loss Control

140-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one

building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

140-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one

building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

140-271 Safety Principles and Practices 3 Credits

Principles of accident prevention, school safety programs, identification of resources and content: motor vehicle, home, public, farm, industrial, school, recreational and civil defense.

140-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one

building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

140-374 Driver Education Laboratory Methods and Techniques 3 Credits

Role, aims and objectives of laboratory programs in driver and traffic safety education; multiple-student teaching techniques, simulation on-street behind-the-wheel and multiple-car driving range experiences provided.

140-375 Driver and Traffic Safety 3 Credits

Classroom phase of driver education: curriculum selection and use, instructional resources and materials, and driver education administration.

140-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one

building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

140-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one

building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

140-574 Alcohol, Drugs and Accident Prevention 3 Credits

Impact of alcohol and drug use on accident prevention programs, current efforts to rehabilitate alcohol and drug abusers.

140-575 Behavioral Approach to Accident Prevention 3 Credits

Behavioral aspects of accident prevention from physiological, psychological, sociological and cultural perspectives; identifying, understanding and modifying attitudes and behavior.

140-581 Occupational Safety/Loss Control 2-3 Credits

Overview of occupational accident prevention programs: techniques of measurement, cost of accidents, locating and identifying accident sources, and problems of selecting corrective action. P: junior standing. FWS

140-583 Voluntary OSHA Compliance 2-3 Credits

Implications of federal occupational safety and health act of 1970 on industrial operations, systematic self-inspection and compliance procedures. FS

140-584 Safety Engineering Standards 2 Credits

Analysis of legal and voluntary industrial workplace standards and regulations. F

140-586 Fire Protection 3 Credits

Behavior of fire: chemistry, protection, prevention and control. W

140-587 Human Factors Engineering/Ergonomics 3 Credits

Physiological and psychological abilities in human/machine interface, working performance, reliability, comfort and safety; effective design of people and work environment as a cybernetic system. F

140-588 Construction Safety 2 Credits

Analysis of hazards, control procedures and systems related to typical construction equipment, tools and materials safety problems. FW

140-589 Fleet Risk Control Management 2 Credits

Controlling loss associated with motor fleet operations: selection, training and supervision of commercial drivers; regulatory controls. W

140-590 Product/Service Liability 2 Credits

An analysis of product liability losses, laws and controls. W

140-649 Cooperative Education Experience 2-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one

building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

Industrial Management

150-120 Quality Concepts 3 Credits

An introduction to quality, quality systems, and quality management through a survey of the various philosophies, principles, techniques and procedures used by various organizations and/or managers to assure customer satisfaction of product and/or service. FWS

150-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one

building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

150-150 Industrial Organization 2 Credits

Basic functions and interrelationships of major subdivisions of industrial organizations. P: industrial technology major or consent of instructor. FW

150-200 Production/Operations Management 3 Credits

A broad analytical "systems" viewpoint is used to develop competency in management decision-making and problem solving in an operations setting.

P: math proficiency as demonstrated by the Math Placement Test. **FWS**

150-220 Quality Systems – Service Industries 3 Credits

Method, procedures and administration of quality technologies for business and service industries. Analysis, documentation of standards and applied research.

150-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

150-298 Field Experience 1-2 Credits

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. **R FWS**

150-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

150-397 Field Experience 1 Credit FWS**150-398 Field Experience 1-2 Credits**

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. **R FWS**

150-422 Quality Engineering 3 Credits

Practical and statistical engineering methods to improve quality, reliability and design in a manufacturing environment. **P:** 150-200 and 354-330. **FW**

150-435 Facilities and Material Handling Systems Design 2 Credits

Analysis and design of facilities and material handling systems. Includes plant layout and material handling principles and equipment. **P:** 150-422. **FW**

150-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

150-450 Maintenance Management 2 Credits

Organization and management of facilities management system: administration of maintenance forces, maintenance of personnel, planning and scheduling of work, maintenance of basic environmental systems, project control and cost control for maintenance operations. **FWS**

150-480 Production Systems Planning 2 Credits

Plan of manufacturing systems utilizing contemporary techniques, such as employee involvement, value analysis, compatibility with facilities and equipment, reliability, material requirements, scheduling, and risk control.

P: 150-422. **FW**

150-489 Business and Industrial Internship 1-8 Credits

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session.

P: junior standing or consent of department chair. **R FWS**

150-497 Field Experience 1 Credit FWS**150-498 Field Experience 1-2 Credits**

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. **R FWS**

150-500 Engineering Economy 2-3 Credits

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation. **P:** 150-200 or consent of instructor. **FWS**

150-501 Seminar 1-2 Credits

Title will reflect specific business or management content. Current topics in business and industrial management to meet the specific needs of students enrolled. **FW**

150-501A Seminar 1-2 Credits

Title will reflect specific business or management content. Current topics in business and industrial management to meet the specific needs of students enrolled. **FW**

150-502 Time Management 1 Credit

Elements of time management, strategies and techniques in industrial and business environments. Analysis of time use by all levels of management.

150-505 Product and Inventory Control 3 Credits

Principles and techniques of minimizing cost of ordering, receiving, storing, issuing, scheduling, routing, dispatching, expediting, and controlling material, parts, sub-assemblies, and final assemblies of a manufacturing system.

P: 150-200 or 354-130 or 354-530 **FW**

150-510 Production Processing 3 Credits

Production processes, especially product design as related to economic production; factors that influence choice and sequence of process to obtain end product. **P:** 150-200. **FW**

150-514 Industrial Enterprise Practicum 3 Credits

Organization and operation of an industrial company; election, designing, production planning, production, marketing and distribution of a product.

P: 150-150. **FWS**

150-520 Quality Assurance 3 Credits

Practical and statistical quality control in design and use of quality assurance programs: quality engineering, manufacturing quality assurance and product quality assurance. **P:** 150-200, 354-130 or 354-530. **FWS**

150-525 Quality Management 3 Credits

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment. **P:** 150-220 and 150-520. **FWS**

150-530 Material Handling 3 Credits

Principles of material handling; handling function, its role in production activities and problems of handling materials in industrial settings.

P: 150-200. **FW**

150-540 Time and Motion Study 3 Credits

Methods engineering in business and industry: improving methods of performing and measuring work done by individuals or groups through motion analysis, charting techniques and principles of motion economy. **P:** 150-200. **FWS**

150-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

150-550 Facilities Planning 3 Credits

Study of facilities location, structure, and planning for efficient layout and material handling systems. **P:** 150-200. **FW**

150-597 Field Experience 1 Credit FWS**150-598 Field Experience 1-2 Credits**

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. **R FWS**

150-600 Organizational Leadership 3 Credits

Supervisor's role in attaining organizational objectives through human resources management; supervisory skills of communication, motivation, initiation of change, discipline, delegation and grievance handling developed on basis of organizational and individual behavior concepts.

P: senior or graduate standing. **FWS ES-C**

150-601 Management Consulting 2 Credits

The organization and analysis of major elements of the consulting profession in management: 1) subject matter expertise, 2) marketing, 3) organizational development, 4) business principles for consultants and 5) communication skills; synthesis of the interdependent relationship of the major elements in the consultation process. **FW**

150-605 Production and Inventory Control Practicum 2 Credits

Application of principles and techniques learned in 150-505 as part of professional semester/manufacturing laboratory. **P:** 150-505.

150-615 Women and Minorities in Management 2 Credits

An examination of current status of women and minorities in management positions such as managerial styles of women and minorities, coping skills for managerial women and minorities, specific leadership techniques, and changing and leading organizations to minimize discrimination.

P: 150-600 or 160-304 and 387-110. Significant experience or instructor approval. **F ES-B**

150-620 Quality Assurance - Practicum 4 Credits

Application of principles and techniques learned in 150-520, as part of professional semester/manufacturing laboratory. **P:** 150-520.

150-630 Employee Involvement: Work Teams 2 Credits

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods. **P:** senior standing or graduate standing or consent of instructor. **S**

150-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

150-660 Industrial Management 2 Credits

Principles and methods of analyzing and solving industrial problems; application through case studies, management games and special problems.

P: senior standing. **S**

150-680 Production Management Practicum 2 Credits

Application of principles and techniques of analyzing and solving production management problems learned in prior course work to manufacturing project in manufacturing laboratory. **P:** consent of instructor. **FW**

Business Administration**160-100 Introduction to Business Administration 1 Credit**

Basic business systems processes, their interrelationships and role of business environment. Business administration program: advisement, course sequence and job opportunities.

P: consent of instructor or general business administration major. **FW**

160-115 Understanding Business 2 Credits

Concepts, functions, and interrelationships of various subdivisions of service and production organizations. **FW**

160-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

**160-200 Financial-Managerial Accounting –
Industrial Technology 3 Credits**

Survey of financial accounting concepts for a sole proprietorship, partnership and corporation. Coverage of some managerial accounting concepts such as budgeting and financial statements analysis. (*Designed for industrial technology majors only.*) **FW**

160-206 Introduction to Financial Accounting 3 Credits

Theory of debit and credit, principles of accounting records, modern business papers, working sheets, balance sheets and income statements, and sole proprietorships. **P:** sophomore standing. **FWS**

**160-207 Introduction – Corporate and
Managerial Accounting 3 Credits**

Development of basic accounting theory from 160-206: partnership and corporate forms of organization; branch and manufacturing accounting; cost accounting, budgeting and analysis and interpretation of financial statements. **P:** 160-206. **FWS**

160-235 Small Business Management 3 Credits

Introduction to the various aspects of business management, especially at the level of small business. **P:** junior standing. **FW**

160-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

160-260 Introduction to International Business 3 Credits

Introduction to the interaction of foreign business, politics, culture, societies on basic international business systems. Basic terminology of international business is of primary importance. **P:** sophomore standing. **FWS**

160-304 Principles of Management 3 Credits

Basic managerial functions: planning, organizing, staffing, directing and controlling; management principles with universal applications; nature of authority and responsibility, departmentation, line and staff relations; enterprise manager in the social setting, comparative management; and management and the future. **FWS**

**160-310A Special Topics –
Management Information Systems 2 Credits**

Improving the practice of business management through the utilization of computer software management information systems. An information system aids management in making, carrying and controlling decisions. **R FW**

**160-310B Special Topics –
Management Information Systems 2 Credits**

Improving the practice of business management through the utilization of computer software management information systems. An information system aids management in making, carrying and controlling decisions.

P: 160-310A. **R FW**

**160-310C Special Topics –
Management Information Systems 2 Credits**

Improving the practice of business management through the utilization of computer software management information systems. An information system aids management in making, carrying and controlling decisions. **R FW**

160-312 Cost Accounting 3 Credits

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting. **P:** 160-206. **FW**

160-318 Business Law I 3 Credits

Introduction to the nature of law, the legal system and the judicial process; also includes contracts, sales of goods and agency. **P:** junior standing. **FWS**

160-319 Business Law II 3 Credits

A continuation of Business Law I; includes property, secured transactions, bankruptcy, estates, commercial paper, partnerships and corporations.

P: 160-318. **S**

160-320 Income Tax Accounting 3 Credits

General concepts of U.S. tax law and its effect on individual, partnership, and corporate decisions; computation of federal and state taxes for individuals.

P: 160-206.

160-330 Principles of Marketing 3 Credits

Retail, wholesale, advertising, channels of distribution, cooperative marketing, pricing, marketing research and marketing legislation from consumer's, middleman's and manufacturer's standpoint. **FWS**

**160-333 Management Information Systems –
Decision Support Systems 3 Credits**

Improving the practice of business management through utilization of computer software based management information systems (MIS). Employ spreadsheet software as an aid to management in making, implementing and controlling decisions. **P:** 160-206 or concurrent registration. **FWS**

160-334 Salesmanship and Sales Management 3 Credits

Concepts of selling; locating prospects, securing and conducting sales presentations, analyzing and handling different types of customers, closing sale, maintaining goodwill. Sales organizations: recruitment, selection, training compensation and cost control methods. **P:** 160-330. **FWS**

160-335 Accounting for Management Decisions 3 Credits

Interpretation of financial statements, internal control, budgeting, costing of products manufactured and sold, analysis of cost-volume-profit decisions. Data presented without mechanical techniques. **P:** 160-207. **FW**

160-337 Purchasing 3 Credits

Exploration of decision making process used in purchasing goods and services; procurement process, paper flow, economics of purchasing and legal aspects.

P: 160-330.

160-340 Business Finance 3 Credits

Concepts of raising, allocating and controlling capital for business entities; analysis of the income tax system and its relevance with business decisions; analysis of financial data in making investment decisions.

P: 160-207 and 354-130 or equivalent, and 355-123 or equivalent. **FWS**

160-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

160-355 Principles of Risk Management 3 Credits

An overview of the role of management of risks in business with emphasis on identification of risks and evaluation to determine methods of handling them. Consideration of all methods with emphasis on insurance. **P:** junior standing. **F**

160-365 Principles of Real Estate 2 Credits

Overview of transactions in real estate, examination of the law as it relates to nature of real property, interests in real property, acquiring ownership, brokerage, real estate sales contracts, financing, land use control, and leasing and property management.

160-370 Principles of Advertising 3 Credits

Psychological, social and economic aspects of advertising in relationship to other aspects of distribution and its place in modern business. **P:** 160-330. **FWS**

160-398 Business Administration Field Experience 1-2 Credits

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. **R FWS**

160-410 Manufacturing Cost Analysis 3 Credits

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer.

P: 160-206 or 160-200. **FW**

160-436 Marketing Management 3 Credits

Examination of the marketing place with emphasis on unique characteristics of the marketing environment. Special emphasis on case study analysis and discussion. **P:** 160-330 and 160-207 and one advanced-level marketing course beyond 160-330. **F**

160-438 Industrial Distribution 3 Credits

Principles of logistics management as applied to industrial distribution channels. Examines channel structure, objectives and strategies. Emphasizes the role of transportation, warehousing and inventory in providing customer service.

P: 160-330.

160-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

160-489 Business and Industrial Internship 1-8 Credits

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session.

P: junior standing or consent of department chair. **R FWS**

160-498 Business Administration Field Experience 1-2 Credits

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. **R FWS**

160-520 Seminar 1-3 Credits

Current topics in business. Title will reflect specific business content. **R FWS**

160-535 Entrepreneurship: Small Business Planning 3 Credits

Concepts, strategies, and applications involved in entrepreneurship. Profile of entrepreneurs and the risks and rewards, creating products and services for the market place, going into business — start-up, buy out, franchise — legal and financial aspects. Preparing a business plan required.

P: 160-206 or 160-200 and 160-330 or consent of instructor.

160-538 International Logistics 3 Credits

International logistics strategy: customer service, inventory, transportation, packaging, warehousing, storage, exporting, licensure, joint ventures, ownership documentation, terms of trading, organization, financial and management skills. **P:** 160-438. **W**

160-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

160-573 Legal Aspects of Construction 3 Credits

Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker. **F**

160-585 International Marketing 3 Credits

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms. **P:** 160-330.

160-588 International Business Practicum 3 Credits

Assist an actual business in developing their international marketing plan. Students, under the supervision of a faculty member, determine a product's foreign marketability. **P:** 160-585 and consent of instructor.

160-598 Business Administration Field Experience 1-2 Credits

Off-campus work and study in an approved position to better understand the challenges of being an effective manager. **R FWS**

160-601 Legal Environment of Business 2 Credits

Changing relationship of government and industry: regulatory legislation, administrative agencies, national policies and social control. **FW**

160-638 Industrial Distribution Seminar 2 Credits

Culminating and synthesizing experiences in industrial distribution. Individual topics will vary from semester to semester reflecting the latest changes in the field. **P:** 160-438. **\$ F**

160-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

160-679 Marketing Research 3 Credits

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management. **P:** 160-330 and a first-level statistics course. **FW**

160-690 Administrative and Business Policies 3 Credits

Integrates previous business studies, develops ability to solve business problems through scientific approaches to decision-making. Students use business cases on policy formulation and administration: manufacturing, marketing, finance, accounting, personnel and public relations functions.

P: 160-330 and 160-340 and 320-210 or 320-201 and senior standing. **FW**

160-697 Field Experience 1 Credit FWS**Manufacturing****181-102 Manufacturing Materials and Processes I 3 Credits**

Material properties (*metals, plastics, elastomers, wood and composites*). Experiences in machining and forming processes such as turning, milling, shearing, drawing, electrical discharge machining, injection molding, extrusion, thermoforming, laminating, reaction injection molding. New developments and trends in materials and processing. **\$ FW**

181-103 Manufacturing Materials and Processes II 3 Credits

Common materials used to manufacture products; experiences related to producing metal products by welding, forging, casting and powdered metal molding; application of finishing materials; molding products from ceramic materials; and fastening with adhesives and mechanical fasteners. New developments and trends in materials and processing. **P:** 181-102. **FW**

181-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

181-230 Metal Machining Technology 3 Credits

Basic machine tool concepts providing an operational knowledge of the lathe, milling machine, grinder, drill press and electrical discharge machine (*EDM*). Introduction to precision measurement techniques and instruments.

P: 181-102. **FW**

181-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

181-280 Packaging Fundamentals 2 Credits

Relationship to marketing and consumer behavior; control through legal and industrial regulations; function within larger organization; roles of professional engineer, packages and their function. **FW**

181-301 Technology, Resources, Environment 2 Credits

Relationship between rate of resource use and environmental degradation; possible consequences of present resource consumption patterns; pursuit of ecologically sound resource consumption patterns more appropriate to presently known available resources. **FW**

181-315 Packaging Materials 3 Credits

Origin, composition, properties and application of packaging materials; lab work in packaging and materials testing methods. **P:** 181-280. **FW**

181-320 Material Removal 3 Credits

Analysis and application of primary and secondary processing and post-processing methods used to manufacture products made from a broad spectrum of materials. The focus is on processes that shape materials by traditional and non-traditional material removal techniques. Measurement principles and practice are encountered in hands-on part machining and inspection.

P: 311-541 and 183-294. **W**

181-340 Plastics Processing 3 Credits

Injection molding process control, material properties, statistical process control, and basic product and mold design. Basic thermoforming processes and product design; profile, sheet, and film extrusion; blow molding processes; and resin composite materials and molding processes. **P:** 181-102. **\$ FWS**

181-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

181-357 Metal Casting Processes 3 Credits

Development of selected metal casting processes through design, pattern construction and casting. Select casting processes for production applications. The role of computers and robots as tools of the casting industry. Visual and metallurgical analysis of castings. **P:** 181-103 or consent of instructor. **FW**

181-358 Forming Processes I 5 Credits

Casting, molding, and powder processing for metals, polymers, and ceramics. Product design and development. **P:** 183-294 and 311-541. **W**

181-365 Production Welding Technology 3 Credits

Fundamental concepts of welding and cutting processes. Set-up and/or operational knowledge of common welding and cutting processes. Metallurgical effects of welding on metals and tests for welds. Operational knowledge of robots in welding, welding codes and symbols.

P: 181-103 or consent of instructor. **FW**

181-375 Joining and Fastening 4 Credits

Welding of metals, ceramic and plastic. Brazing and soldering of appropriate metals, set up and operate welding equipment. Thermal effects and destructive testing. Evaluation of adhesives and mechanical fasteners. Welding codes and ASTM standard comparative processing cost.

P: 181-103 and 183-294 and 311-541. **W**

181-380 Consumer Packaging Systems 3 Credits

The study of packaging from the design concept through production. Lab work on structural design, sample making and machine operation. Discussions on standard packages and their applications. **P:** 181-280. **FW**

181-381 Distribution Packaging 3 Credits

Packaging systems to support the distribution functions. Topics will include shipping containers, palletizing, unitizing, barrier problems, marking and coding for shipment, freight regulations, military specifications and hazardous materials regulations. **P:** 181-280, 181-315, 181-380. **FW**

181-385 Packaging Machinery 3 Credits

Equipment that measures, forms, fills, seals, cartons, cases, uncases and labels; functional capabilities of speed, material characteristics, carton size and operating characteristics. **P:** 181-280. **W**

181-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

181-480 Packaging Design and Evaluation 3 Credits

Chemical and physical protection problems; materials, structure, graphics and regulations in package design; shock and vibration forces in package evaluation; practical applications of evaluation using electronic instrumentation.

P: 181-380 or 181-381. **FW**

181-504 Computer Aided Manufacturing 3 Credits

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly; product design and part grouping in relation to total manufacturing operation.

P: consent of instructor or programming course. **\$ FW**

181-505 Robotics 2 Credits

Capabilities of and justification for industrial robots; lab work with robots and simulators in processing, assembly and materials handling.

P: 181-504 and 354-141 or consent of instructor. **\$ FW**

181-508 Industrial Metrology 3 Credits

Measurement of heat, moisture, speed, fluid flow, material properties, and angular and linear dimensions for parts production and process control. Theory and application with major emphasis on dimensional metrology. Introduction to statistical process control and non-destructive testing.

P: 181-102 junior standing or consent of instructor. **FWS**

181-510 Manufacturing Systems 3 Credits

Dedicated, flexible and standard manufacturing systems. Selection and application of standard production components and tooling to produce and evaluate a given product. Emphasis on integrated inspection, part transfer, production and robot application. **P:** 181-504. **\$**

181-515 Metallurgy 3 Credits

Properties of crystalline solids, production of iron and steel, the carbon-iron equilibrium diagram, principles of heat treatment, properties of ferrous alloys. Production, properties and theory of the most important non-ferrous metals and alloys. **P:** 311-115. **FW**

181-537 Numerical Control in Manufacturing 1-3 Credits

Investigation and justification of numerical control of machine tools; types of control units and systems, feedback systems, manuscript writing and manual programming, tape punching and machine set up, fixture design and tool setting; working knowledge of basic machining processes recommended.

P: 181-102 or 181-504. **FW**

181-540 Design and Simulation of Manufacturing Cells 3 Credits

Applied manufacturing system design and evaluation. Group technology approach. Computer assisted coding and classification. Development of part families. Efficient design of manufacturing cells. Evaluation of manufacturing system designs using simulation and other techniques. Basic statistics and computer programming abilities desirable. **P:** 181-504. **\$ FW**

181-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

181-580 Packaging Development 3 Credits

Applications of packaging functions: developing a product's complete packaging system, from final production of product to consumer. **P:** 181-480. **FW**

181-585 Packaging Seminar 2 Credits

Current packaging problems or developments (*subject based on students' interests and current issues*). **P:** senior standing in packaging concentration. **FW**

181-595 Seminar 1-2 Credits

Title will reflect specific manufacturing content. Designed to upgrade effectiveness of teachers or secondary school manufacturing content.

181-600 Workshop 1-3 Credits

Special topics manufacturing, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

181-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

181-698 Field Experience 1-2 Credits FWS**Construction****182-130 Hospitality/Living/Institutional Facility Planning 2 Credits**

Basic architectural drafting and design content, concepts, media, techniques, and methods to record and communicate ideas and solve problems. \$ FWS

182-131 Architectural Graphics 2-3 Credits

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work. \$ FW

182-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

182-170 Light Construction Methods 2 Credits

Residential and small commercial structure construction: terminology, materials, tools and equipment. FW

182-172 Construction Technology 3 Credits

Technology of constructing buildings, bridges and other structures, including site preparation, foundation systems, superstructures, enclosures, utilities, finishing methods, and materials. FWS

182-175 Construction Materials 1 Credit

A study of the origin, composition, and basic nature and use of primary materials of construction (*woods, metals, plastics, brick, tile, rock, stone, cement and glass*). FW

182-190 Orientation to Construction Industry 1 Credit

An introduction to the field of construction as presented by professionals in the construction industry to broaden student understanding and develop appreciation of the entire scope of construction. W

182-233 Architectural Design I 3 Credits

Develop graphic simulation techniques and problem-solving abilities; site planning, space requirements, housing codes, structure, light frame construction, solar and earth integrated designs, mechanical and electrical systems.

P: 183-110 or 182-130 or 182-131 or consent of instructor. FWS

182-237 Architectural Technology 3 Credits

Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems. P: 183-110 or 182-131. FW

182-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

182-270 Heavy Construction Methods and Equipment 3 Credits

Introduction to commercial and industrial building systems: equipment, site preparations, footings, foundations, form work, concrete, steel and wood timber techniques. P: 182-170. FW

182-273 Concrete and Masonry Technology 3 Credits

Fundamental principles of cement and concrete (*ingredients, mixing, placement, finishing, curing, properties and applications*); clay and concrete units (*ingredients, properties, manufacture, placement and application*). P: 182-170 and 182-175. FW

182-335 Architectural Design II 3 Credits

Programming and analysis, design solution, presentation and design development drawings for commercial and/or public buildings; scale, site, codes, energy, acoustics, structure and their relation to form. FW

182-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

182-357 Site Engineering 3 Credits

Use of surveying instruments, techniques, computations, and computer technology to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage. P: 182-131 and 355-121 or equivalent. \$ FWS

182-375 Wood and Wood Fiber Composite Materials 3 Credits

Wood structure, classification, composition, extractives, properties, testing, stabilization, bonding, preservation, wood/plastic composites, paper and other modified wood fiber materials. P: 181-102 or consent of instructor. FW

182-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

182-538 Contract Requirements and Specifications 3 Credits

Principles of contract requirements and construction specification organization. Development of basic skills of project manual preparation. Demonstration of role of specifications within the construction process and relationship to other construction contract documents. P: 326-320 or 326-515. FW

182-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

182-552 Environmental Systems – HVAC 3 Credits

Principles of heating, ventilating and air conditioning; analysis and selection of systems and equipment. P: 372-222 or 372-241 or 372-281. W

182-553 Environmental Systems – Plumbing and Electrical 3 Credits

Plumbing, electrical and illumination systems for light and heavy construction.

P: 372-232 or 372-242 or 372-282. W

182-558 Structural Systems – Wood and Steel 3 Credits

Analysis, selection, and delineation of wood and steel structural components and systems in buildings. P: 372-321. F

182-559 Structural Systems – Concrete and Masonry 3 Credits

Analysis, selection, and delineation of concrete and masonry structural components and systems in buildings. P: 182-558. FW

182-570 Construction Estimating I 3 Credits

Estimating and analyzing material, labor, equipment, methods of construction, overhead and profit, and submitting these factors in the form of a bid.

P: 182-237. FW

182-571 Construction Estimating II 2 Credits

Computer-based estimating systems for construction. Take-off, pricing, bid preparation, resource and cost studies, and database operations.

P: 182-570. FW

182-572 Management of Construction 3 Credits

Organizing, managing and operating the contracting firm. P: 160-304. FW

182-575 Construction Practicum 2-4 Credits

Technical information, construction problems and actual development of light residential structure. S

182-595 Seminar 1-2 Credits

Title will reflect specific construction content. Current and projected methods, concepts, technologies and innovations in construction. RS

182-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

182-670 Project Scheduling and Cost Control 3 Credits

Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques.

P: 182-570. FW

Design, Research and Development**183-110 Drafting 2 Credits**

Projection concepts for representing three-dimensional forms on two-dimensional surfaces; shape and size description and drafting techniques. \$ FWS

183-112 Principles of Engineering Drawing I 2 Credits

Drafting principles and practices needed to communicate with designers, engineers and technicians. Sketching, traditional and CAD drafting techniques will be used to solve problems. FW

183-113 Principles of Engineering Drawing II 3 Credits

An advanced study of drafting principles and standards to communicate effectively with designers, engineers, technicians and assemblers in manufacturing industries. Sketching, traditional and CAD drafting techniques will be used to solve problems. P: 183-112. FW

183-115 Engineering Graphics 5 Credits

A comprehensive study of drafting principles, practices and use of standards. The content is sequenced so the learner understands the language needed to communicate with designers, engineers, technicians and assemblers in manufacturing industries. Sketching, traditional and CAD drafting techniques will be used to solve problems. W

183-120 Design Drafting 3 Credits

Design concepts and drafting techniques. Freehand sketching, problem solving, and drafting procedures to communicate the design intent for multiview drawings. Emphasis on spatial visualization, conceptualization and graphic communication. F

183-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

183-205 Design for Industry 3 Credits

Industrial research and development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied. FW

183-212 Descriptive Geometry 3 Credits

Graphic representation and solution of space problems involving points, lines, planes, intersections, revolutions and vectors. P: 183-110. F

183-234 Computer Assisted Design and Drafting 2 Credits

PC-based CADD; solve problems with the assistance of computer hardware and software. Generate drawings for architectural and mechanical design applications. P: 183-110 or 182-131 or 182-130 or consent of instructor. FS

183-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

183-290 Mechanics of Solids I 3 Credits

Technical calculations, dimensional analysis, freebody diagrams, force systems and equilibrium, friction, elementary statically determinate framed structures, and simple stress. **P:** 372-231 or 372-241 or 372-281. **FW**

183-291 Mechanics of Solids II 3 Credits

Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns.

P: 183-290 or 372-531. **FW**

183-293 Engineering Mechanics 3 Credits

Force systems and equilibrium in two and three dimensions, free body diagrams, trusses, frames, friction, kinematic analysis of particle and rigid body translation, rotation, and general plane motion, force-acceleration analysis, work-energy analysis, impulse momentum analysis, impact, damped and undamped vibrations, and forced vibrations. **P:** 372-281. **F**

183-294 Mechanics of Materials 3 Credits

Stress and strain, stress-strain curves, material properties, stress and strain transformation, axially loaded members, elastic and inelastic torsion, theories of failure, thin-walled pressure vessels, elastic and inelastic flexure, shear and bending moment diagrams, beam deflections, combined loading, fatigue, column buckling, finite element analysis. **P:** 183-293 and completion of or concurrent enrollment in 181-102, 181-103. **W**

183-311 Technical Drafting 3 Credits

Drafting concepts and techniques in manufacturing industries; graphic language of orthographic projection for use in design, assembly, manufacturing and sales. **P:** 183-110. **FWS**

183-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

183-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

183-520 Prototype Development and Model Making 3 Credits

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three-dimensional objects using traditional and non-traditional machining and forming techniques. Three-dimensional design problems form the core of this course. **P:** 181-102. **W**

183-532 Mechanical Design 4 Credits

Analysis and design of machine elements: gearing bearings, shafting and friction devices. **P:** 183-291 or 372-325, 183-592 or 372-533, 183-593. **W**

183-537 Mechanical Design Drafting 2 Credits

Design of a machine, specifications, layout, calculations, bills of material, detail and assembly drawings. **P:** 183-311, 183-532 or concurrent registration. **F**

183-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

183-592 Mechanics of Machinery I 3 Credits

Dynamics of machinery: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum, work, power and energy; balancing and vibration.

P: 183-290 or 372-531, 355-153. **W**

183-593 Mechanics of Machinery II 3 Credits

Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces. **P:** 183-290 or 372-531. **F**

183-595 Seminar 1-2 Credits

Title will reflect specific design, research and development content. Current and projected communication methods, concepts, technologies and innovations in design, research and development. **RS**

183-600 Workshop 1-3 Credits

Special topics in design, research and development, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R**

183-620 Research and Development 2 Credits

Research and development procedures applied to specific industrial material and processing problems. **P:** senior or graduate standing. **FW**

183-621 Research and Development Laboratory 1 Credit

This lab is taken in conjunction with 183-620 to allow students in technical majors to fulfill the requirements of the major research and design project.

P: senior or graduate standing. To be taken concurrently with 183-620. **FW**

183-636 Computer Assisted Design Problems 2 Credits

Advanced CADD applications. Construct three-dimensional wireframe drawings. Perform finite element analysis on select components. Customize software for specific applications. In-depth analysis of CADD applications in mechanical and architectural design. **P:** consent of instructor. **W**

183-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

Electricity/Electronics

184-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

184-204 Electricity/Electronics Fundamentals 3 Credits

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

P: college level mathematics capability. \$ FWS

184-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

184-270 Circuit Analysis 4 Credits

Introductory concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive, and apparent power in AC circuits.

P: 355-153 or 355-156, 372-221 for industrial technology; 355-156 \$

184-280 Networks 4 Credits

Networks based on differential equations. Classical and Laplace transform solution of network equations, complex impedance, introduction to state variable theory, two-port parameters. Frequency response techniques including Fourier series and Fourier transforms. P: 355-255, 184-270.

184-290 Circuits and Devices 4 Credits

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electro-mechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits. P: 355-154 and 372-282. W

184-348 Motors and Generators 2 Credits

Rotating machinery concepts; DC generators, motors; synchronous motors, generators; induction motors; controls. P: 184-204. FW

184-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

184-363 Controls and Instrumentation 3 Credits

Programmable logic controllers, structured ladder logic developments, input/output module description, and interfacing with analog and digital sensors and actuators. Motion, temperature, pressure and flow sensors. Advantages of closed loop control, mathematical modeling of electric and mechanical systems, stability analysis and frequency response. Introduction to motion control.

P: 184-290 and 355-250. FW

184-371 Solid State Electronics 3 Credits

Basic semiconductor theory for solid state devices including diodes and transistors. Biasing and small signal analysis of transistor amplifiers. Introduction to operational amplifiers and integrated circuit terminology. P: 184-270. \$

184-381 Linear Electronic Circuits 3 Credits

Analysis of integrated and discrete transistor circuits including common transistor arrays, analog signal processing using operational amplifiers, negative feedback amplifiers, high and low frequency response, low frequency response, low frequency class A and B power amplifiers and electronic voltage regulator circuits. P: 184-371. \$

184-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

184-473 Digital Logic and Switching 3 Credits

Analysis and synthesis of combinational and sequential switching circuits. Boolean algebras and number systems, switching functions, minimization, single and multiple output networks, realization of functions. Finite state sequential machines, state transition diagrams, machines and state equivalence, incompletely specified machines, machine realization. Algorithmic state machines and asynchronous state machines. P: 184-371. \$ FWS

184-474 Digital Electronics 3 Credits

Junction and field effect transistors as switches, basic digital and switching circuits, bipolar and Mosfet logic families, digital integrated circuit schemes and building blocks, multivibrators, memory elements, digital to analog and analog to digital converters. P: 184-371, 184-473. \$ FWS

184-482 Electronic Communication Fundamentals 3 Credits

Investigation of amplitude modulation, frequency modulation, single-side band and pulse modulation electronic communication systems. Theory of modulation and demodulation, noise and a study of transmitter and receiver configurations. P: 354-331, 184-381 \$

184-542 Computer Applications in Electronics 3 Credits

Microprocessor application at a system level. Use of hardware and software design aids such as assemblers, text editors, compilers, read only memory emulators and system projects related to specific microprocessors. Introduction to the 16 bit microprocessors, 8 bit slice processors, signal processors and controllers. P: 184-575.

184-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

184-551 Introduction to Microprocessors 3 Credits

The examination of the working components of a simple microprocessor system, machine language programming, registers, memory, input-output and application such as security, energy monitor, control, communication, and transportation. P: 300-101 and basic electronic background or equivalent. FW

184-552 Electronic Communications 3 Credits

Electrical/electronic communication systems; modulation, demodulation, r.f. and i.f. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters. P: 184-204. F

184-553 Instrumentation and Control 3 Credits

Industrial measurement, control, open loop, closed loop, analog, digital, electric/electronic, fluidic, mechanical, pneumatic. P: 184-371. W

184-574 Microprocessor Fundamentals 3 Credits

Overview of present day microprocessor technology. Function, analysis and operation of selected microprocessors. Memory, input-output interfacing devices. Basic machine/assembly and structured language programming and hardware application. P: 184-371. \$

184-575 Microprocessor Interfacing 3 Credits

Interfacing principles of microprocessor based microcomputer systems. Input-output techniques, input-output mapping, asynchronous-synchronous communication, parallel-serial conversion. Microprocessor application such as control systems, energy monitor, cooking and communications. P: 184-574. \$

184-583 Fundamentals of Control 4 Credits

Analysis of elementary control systems via classical and Laplace transform techniques, frequency response and root locus plots, block diagrams and transfer functions, open and closed loop systems, stability considerations, digital to analog conversion, microprocessor based control systems.

P: 184-280, 184-574. \$

184-586 Instrumentation 3 Credits

Descriptive and analysis of thermal, mechanical, acoustic, optical, pneumatic and electromagnetic sensors, measuring systems, calibration, performance of measuring systems, analog and digital signal conditioning. Measurement of frequency and time, and analysis and performance of display units. P: 184-583. \$

184-595 Seminar 1-2 Credits

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. \$ R FWS

184-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

Power**185-103 Power Mechanics 2 Credits**

Internal and external combustion heat engines, mechanical and fluid transmission systems; present and future applications and limitations. Laboratory work emphasized. \$ FWS

185-149 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

185-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

185-260 Introduction to Fluid Power 2 Credits

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits. FW

185-303 Mechanical Power Transmission 3 Credits

Fundamentals of mechanical power transmission: theory of operation, selection of components, suggestions for application, and analysis of systems. \$ FW

185-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

185-361 Industrial Hydraulics 2 Credits

Theory, operation and construction of hydraulic systems and circuits, pumps, reservoirs, lines, control valves and actuators. P: 185-260. \$ F

185-362 Industrial Pneumatics 2 Credits

Theory, operation and construction of pneumatic and pneumatic/hydraulic system components, with application to basic industrial circuits; compressors, plumbing, control valves and actuators. P: 185-260. \$ W

185-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

185-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

185-595 Seminar 1-2 Credits

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. **R FWS**

185-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

Transportation/Energy**186-149 Cooperative Education Experience 1-8 Credits**

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

186-202 Transportation Systems 2 Credits

Effects of transportation on society. Comparisons of transportation modes on relative costs, speeds, reliability, efficiency and more. Examination of vehicle structures, propulsion, suspension, guidance, control and support systems.

FW GETECH

186-203 Transportation Systems Lab 1 Credit

Applications and reinforcement of transportation modes. Special projects and field trips. **P:** 186-202 or concurrent registration. **\$ FW**

186-204 Energy Technology 2 Credits

The nature of energy, its discovery, conversion and harnessing. Economic, environmental, political and social ramifications of energy-related choices.

FW GETECH

186-205 Energy Technology Lab 1 Credit

Mechanical, electrical, fluid and thermal power projects.

P: 186-204 or concurrent registration. **\$ FW**

186-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

186-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

186-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

186-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

186-557 Principles of Technology I 3 Credits

Contemporary applications of the principles governing force, work, rate, resistance, energy, power, and force transformers in mechanical, electrical, fluid and thermal systems. Technical content especially appropriate for educational applications. **P:** 372-231 or equivalent. **FWS**

186-595 Seminar 1-2 Credits

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. **R FWS**

186-631 Private Pilot's Ground School 3 Credits

Preparation for F.A.A. private pilot's certificate: airplane utility, flight manuals, safety, federal aviation regulations, navigation, communication, weather, general aircraft operation and flight theory. **FW**

186-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

Industrial Teacher Education**190-149 Cooperative Education Experience 1-8 Credits**

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

190-160 Introduction to Technology Education 1 Credit

Survey of the history, philosophy, mission, curriculum, methods, organizations and resources associated with technology education. **FW**

190-205 Teaching Methods**Technology/Vocational Education 2 Credits**

Study of teaching methods in use in youth and adult shop classes. Instruction planning, lesson presentation with videotape equipment; methods of organization and management; instruction aids; professional ethics.

P: 190-160. **FWS**

190-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

190-260 Curriculum, Methods, and Assessment for Technology Education 3 Credits

Development of rationales, goals, content outlines, outcomes, objectives, activities and assessment items. **P:** 190-160 and 421-312. **F**

190-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

190-360 Technology Education Preclinical Experience 1 Credit

Observing, experiencing, evaluating, and analyzing teaching and learning in public school settings. **P:** 190-160. **FW**

190-390 Lab/Class Management in Technology Education 2 Credits

An overview of principles of facility planning and equipment selection for a variety of curriculum needs. Laboratory and classroom management techniques will be presented with an emphasis on safety requirements and managing various delivery systems used in contemporary programs. **P:** 190-160. **FWS**

190-398 Field Experience 1-2 Credits FWS

190-398E Field Experience 1 Credit FWS

190-405 Curriculum Technology/Vocational Education 2 Credits

Study of curriculum terminology and methods of selecting and organizing content for industrial education courses. A course of study and individualized instruction will be developed by the student for use in teaching a class in industrial arts or vocational education. **P:** 190-160 and 190-205. **FWS**

190-406 Evaluation in Technology/Vocational Education 2 Credits

For industrial arts and vocational/technical teachers in evaluating program and student performance: basis for student assessment, evaluation of manipulative activity and construction of teacher-made tests as applied to all students (including those with special needs). Student evaluation of instructor and instruction.

P: 190-205 and 190-404. **FWS**

190-407 Student Teaching in Technology Education 5 Credits

Directed teaching and community experiences in selected off-campus schools.

P: must hold teaching certificate in an area other than industrial education.

190-409 Student Teaching 16 Credits

Directed teaching and community experiences in selected off-campus schools.

P: 190-160, 190-205, 190-405, 190-406, satisfactory health and speech, English, and grade point average. **FWS**

190-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

190-460 Advanced Curriculum, Methods and Assessment for Technology Education 3 Credits

Development and implementation of lessons, demonstrations, lab activities, evaluations, and classroom management plans. **P:** 190-260. **W**

190-488 Internship Teaching 8 Credits

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. **P:** 190-404. **FW**

190-489 Internship Teaching 16 Credits

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. **P:** admission to student teaching. **R FW**

190-498 Field Experience 1-2 Credits FWS

190-498E Field Experience 1 Credit FWS

190-525 Technology for Elementary School Children 2 Credits

Development, philosophy, objectives and course organization for industrial arts for the elementary schools. Suitable laboratory work in woods, metals, plastics and drawing.

190-530 Implementing Technology Education 3 Credits

Converts the theory of contemporary technology education programs into instructional materials, facilities, and strategy suited to the secondary and post-secondary school. **FWS**

190-533 Planning Technical/Vocational Laboratories 2 Credits

School shop facility planning: equipment selection, placement, care and management. **P:** 190-405 or equivalent.

190-540 Middle School Technology Education 2 Credits

Reviews trends and activities in the technology education movement. To update instructors to teach middle school offerings. **FWS**

190-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

190-575 Workshop 1-3 Credits

Current specialized topics in industrial education through experiential activities. **P:** consent of instructor.

190-598 Field Experience 1-2 Credits FWS

190-606 Activities in Technology/Vocational Education 2 Credits

A study and design of learning activities for industrial and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and affective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects.

190-631 Field Trips to Industry 1-3 Credits

Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A third credit may be earned by showing evidence of application of data collected in courses being taught. **\$ R**

190-637 Organization/Management of Technical Laboratories 2 Credits

Experience in administration, project development and teaching problems associated with industrial education. **P: 190-205. S**

190-638 Course Construction 2 Credits

Directed experience in curriculum development and course of study construction for industrial education teachers; development of behavioral objectives and of instructional materials to help reach these objectives; development of course of study, instructional package/unit of instruction. **WS**

190-649 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

Technology**195-230 Exploring Technology 2 Credits**

Aspects of technology: definitions, present characteristics, history, forecasting, transfer, assessment, impact and systems. **FWS GETECH**

195-520 Technological Advances – Fast Forward I 2 Credits

Outlines industry's rapid advancements in high technology as utilized in the world today. Reference is made to a variety of applications of this technology now and in the future. **FS GETECH**

195-521 Technological Advances – Fast Forward II 2 Credits

Current applications of technology in today's society. Discusses how technological advances have affected educators through simulation, society through technological changes such as storing information, television communication and other new technological advances. **WS GETECH**

195-540 Future of Work 1-2 Credits

Future possibilities as to why people work, who will work, and in what conditions. Project probable work parameters from current trends. Relate past, present and future to students' individual work situations.

Marketing Education**196-201 Introduction to Marketing Education 3 Credits**

The field of distributive education; historical development, role in vocational education, career opportunities, certification requirements and current trends. **FS**

196-202 Supervision of Distributive Education Clubs 3 Credits

Organization of a DECA chapter, the administration of activities, and the design of competitive events, including "program of work" development, school and model store organization, and integration of DECA into the curriculum. **F**

196-301 Marketing Education Methods 3-4 Credits

Techniques and methods of delivering marketing education: lecture, projects, individualized instruction, demonstration, instructional resource materials, and integration of DECA and co-op instructional activities.

P: 421-312 and 196-201 and 196-202. S

196-311 Marketing Education Project Method 2 Credits

Designed to develop methods, techniques, activities and resources that center around teaching marketing education via the project method or model store simulation. **P: 196-201, 196-202, 196-312 or concurrent registration. F**

196-312 Pre-Clinical Experience: Marketing Education 1 Credit

Prestudent teaching experience by designing, delivering and evaluating lessons in a high school setting in conjunction with 196-311 Marketing Education project method. **P: 196-201, 196-202, 196-311 or concurrent registration. F**

196-401 Marketing Education Curriculum 2-3 Credits

Introduction to curriculum development for students who are preparing to become teacher-coordinators of marketing education. Includes an update on current issues and trends in marketing education curriculum, development of a specific curriculum unit, and competency-based instruction.

P: 196-201, 196-202, 196-301, 196-311 and 421-312. S

196-408 Marketing Education Student Teaching 8 Credits

Directed teaching and community experiences in selected off-campus schools (quarter). **S**

196-409 Marketing Education Student Teaching 16 Credits

Directed teaching and community experiences in selected off-campus schools. **P: 196-201, 196-202, 196-301, 196-401, 196-312, senior standing — cumulative grade point average of 2.5; consent of instructor; satisfactory health, speech and English. W**

196-488 Marketing Education Internship 8-16 Credits

Directed teaching and community experiences in selected off-campus schools. **P: admission to student teaching. FW**

196-555 Marketing Education Seminar 2-3 Credits

Designed to update marketing and distributive education undergraduates and graduates (teacher-coordinators) on work experience, new curriculum, student organization competencies, coordination techniques, special needs, and distributive education related projects. Will be used to in-service high school teacher-coordinators and vocational, technical and adult education marketing teachers.

Training and Human Resource Development**198-549 Cooperative Education/Internship 1-8 Credits**

Work and study in an approved training department in business, industry or government. May be recurring, is supervised during work/study periods. Any recurring work/study periods would be designed to build upon previous experiences in the course. **P: consent of instructor and completion of at least three training courses. \$ R FWS**

198-560 Training Systems in Business and Industry 3 Credits

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non-education majors. **\$S**

198-570 Training Methods in Business and Industry 2 Credits

Identification of training situations where the development and delivery of training is needed. Emphasis is on methods to deliver a training session. Students will be required to make training session presentations. **FWS**

198-575 Workshop 1-3 Credits

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R FWS**

198-589 Training Internship 2-8 Credits

Opportunities for students to learn and practice training management and instructional techniques through activities and experiences in a training department. Objectives commensurate with student's background and field of training. Activities include designing and implementing training programs in student's major or minor field of study in either industry, business, military or government training programs. **P:** 198-550 or 198-560; grade point average of 2.5; consent of specialization director (*undergraduate*) or program director (*graduate*). **FW**

198-600 Workshop 1-3 Credits

Special topics in training and human resource development providing hands-on or experiential learning activities. Specific content and title to reflect topic of the workshop. **R FWS**

Vocational Education**199-198 Field Experience 1-2 Credits FWS****199-298 Field Experience 1-2 Credits FWS****199-398 Field Experience 1-2 Credits FWS****199-449 Cooperative Education Experience 1-8 Credits**

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

199-488 Vocational, Technical and Adult Education Internship 1-8 Credits

International students majoring in vocational, technical and adult education will participate in an internship located in both industrial/business and vocational/technical institutions to have experience in their technical specialty.

P: 190-205, 190-405, 190-406, 199-502, 199-534. **FWS**

199-498 Field Experience 1-2 Credits FWS**199-501 Preservice Workshop for Vocational Educators 1 Credit**

Introduction to the basic concepts of teaching courses in Wisconsin vocational, technical and adult education.

199-502 Principles of Vocational, Technical and Adult Education 2 Credits

Philosophy, organization and administration of vocational, technical and adult education, nationwide, in Wisconsin and on the local level. **\$ FWS**

199-534 Task Analysis 2 Credits

Analysis techniques utilized in curriculum development. Emphasis on task analyses and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising vocational curriculum or job training programs. **FS**

199-537 Competency-Based Education – Vocational/Industrial 2 Credits

Competencies for vocational, technical and adult education programs and courses. Development of competency-based education performance indicators in all domains, a competency-based education management system, and basis for competency-based education evaluation. **FW**

199-546 Seminar 1-3 Credits

Current topics in vocational, technical and adult education with application for personnel in the field. **P:** consent of instructor. **FWS**

199-546E Seminar 1-3 Credits

Current topics in vocational, technical and adult education with application for personnel in the field. **P:** consent of instructor. **FWS**

199-549 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ R FWS**

199-559 Technology Impacts Occupational Programs 4 Credits

Presentation of latest technology in communications, manufacturing, construction, and/or transportation which involves concepts from math, science and computer science. **RS**

199-560 Cooperative Occupational Education Programs 2 Credits

Philosophy, organization, coordination and teaching techniques of cooperative education programs in the various vocational areas. Roles, responsibilities and duties of the cooperative teacher coordinator. **FWS**

199-575 Workshop 1-3 Credits

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R FWS**

199-575A Workshop 1-3 Credits

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. **R FWS**

199-580 Computer Aided Instruction – Vocational, Technical and Adult Education 2 Credits

Applications of the computer in managing vocational, technical and adult education classrooms and laboratories. Utilization of computers in course preparation, evaluation and methods of teaching. Use of existing software and the evaluation of it. **P:** consent of instructor or computer literacy course.

199-597 Field Experience 1 Credit FWS

199-598 Field Experience 1-2 Credits FWS

199-605 Methods of Teaching Vocational Education 2 Credits

Competency-based and individualized approach to methods of teaching vocational education. **F**

199-638 Course Construction for Vocational Educators 2 Credits

Competency-based and individualized approach to principles of course construction for vocational educators. **F**

199-640 Instructional Evaluation in Vocational Education 2 Credits

Competency-based and individualized approach to instructional evaluation for vocational educators. **F**

199-674 Adult Education 2 Credits

Philosophy and history of adult education in the United States. Techniques for teaching adults: psychological factors, methods, adult interests and characteristics.

199-698 Field Experience 1-2 Credits FWS

Interdepartmental—200

200-449 Cooperative Education Program in Home Economics 1-6 Credits

Work and study in an approved business/industry position related to the student's major. Selection by application and interview.

P: consent of instructor or field experience. **\$ R FW**

Human Development and Family Living

212-100 Introduction to Early Childhood Programs 1 Credit

History of early childhood programs for children through age 8, developmentally appropriate practice, current issues, professionalism, employability skills and attitudes, career exploration. **P:** Open only to students enrolled in the early childhood program or consent of instructor. **FW**

212-101 Introduction to Human Development and Family Studies 1 Credit

Fields of human development and family studies; occupational opportunities in programs serving families and children. **FW**

212-124 Human Development: Early Childhood 3 Credits

Principles and theories of growth and development prenatal through age 8, with a systemic perspective on physical, motor, cognitive, language, social and emotional development. Observations required. **FW**

212-235 Child Development Laboratory 1 Credit

Observation and/or participation in early childhood program. May be repeated for different experiences. **P:** 212-124. **R FW**

212-250 Individual and Family Relations 3 Credits

Dynamics of social-psychological forces affecting family interaction. Explorations of courtship, husband-wife, parent-child relationships. **FW ES-C**

212-251 Early Years of Marriage 1 Credit

Presentation and evaluation of adjustments, goals and processes of the early years of marriage. **FWS**

212-264 Child Guidance 3 Credits

Developmentally appropriate principles and strategies for child guidance. Systems perspective, positive discipline, theoretical approaches, current topics, developing a personal/eclectic approach. **P:** 212-124. **FW**

212-265 Child Guidance Practicum 1 Credit

Supervised participation in child and family study center or similar center: guidance techniques and understanding of children. **P:** 212-264. **FWS**

212-303 Developmentally Appropriate Practice: Infants and Toddlers 3 Credits

Developmentally appropriate teaching practices with infants and toddlers in group settings. Play, creativity, health and safety, integrated curriculum, teaching strategies, assessment, program models and lesson plans. Observations required. **P:** 212-100 and 212-124 and 212-250, concurrent enrollment in 212-307 and 212-309, cumulative grade point average of 2.75 or better, open only to education majors. **FW**

212-307 Developmentally Appropriate Practice: Preschool 4 Credits

Developmentally appropriate teaching practices with preschool children in group settings. Play, creativity, health and safety, integrated curriculum, teaching strategies, assessment, program models and lesson plans. Observations and practicum required. **P:** 212-100 and 212-124 and 212-264 and 212-250, concurrent enrollment in 212-303 and 212-309, cumulative grade point average must be 2.75 or better, open only to early childhood majors. **FW**

212-309 Developmentally Appropriate Practice: Kindergarten – Primary 2 Credits

Developmentally appropriate teaching practices in kindergarten through grade 3 in group settings. Play, creativity, health and safety, integrated curriculum, teaching strategies, assessment, program models and lesson plans. Observations required. **P:** 212-100 and 212-124 and 212-264 and 212-250, concurrent enrollment in 212-303 and 212-307, cumulative grade point average must be 2.75 or better, open only to early childhood majors. **FW**

212-350 Dynamics of Family Development 3 Credits

A study of the family with emphasis on environmental factors significant in marriage and family relationships. **P:** 212-250. **FW ES-B**

212-351 Death and the Family 1 Credit

Current literature concerning how families deal with the death of a member; how adults can help children cope with death in the family; how other family members deal with death of older and younger family members. **FW**

212-354 Skill Training for Individual/Family Interventions 3 Credits

Concepts and skills in developing rapport, assessing goals and initiating change with children, parents, couples and families across the life span in professional settings. **F**

212-355 Lifespan Human Development 3 Credits

Lifespan individual development. Critical examination of influences on individual development across the lifespan. **FW GES/BSCI PSYC ES-C**

212-357 Lifespan Sexuality 3 Credits

Introduction to human sexuality over the lifespan, utilizing individual and family perspective. Focus is development of sexual behavior, relationships, and gender characteristics from infancy to late life. **FWS GEH/PE HLTH**

212-401 Human Development: Advanced Child Development and Guidance 1 Credit

Advanced study of child development and child guidance from a systems perspective. Emphasis on critical analysis of research and application of knowledge in a variety of settings. **P:** 212-264 and senior standing and an introductory level course(s) in human/child development, or consent of instructor. **FW**

212-410 Early Childhood Curriculum: Science 3 Credits

Methods and materials for assessing, planning, implementing and evaluating science curricula for early childhood (*birth-grade 3*). Emphasis on science process skills while fostering foundational knowledge in all science areas.

P: 212-303 and 212-307 and 212-309 and 2.75 cumulative grade point average. Completion of general education natural science requirement, and passed all sections of PPST. Concurrent enrollment in early childhood curriculum block. **FW**

212-411 Early Childhood Curriculum: Mathematics 3 Credits

Mathematics curriculum planning for early childhood (*birth-grade 3*), including selection, organization, presentation, and evaluation of appropriate curricula.

P: 212-303 and 212-307 and 212-309 and 2.75 cumulative grade point average, completion of general education math requirement, and passed all sections of PPST. Concurrent enrollment in early childhood curriculum block. **FW**

212-412 Early Childhood Curriculum: Social Studies 3 Credits

Methods and materials for assessing, planning, implementing and evaluating social studies curriculum for early childhood (*birth-grade 3*).

P: 212-303 and 212-307 and 212-309 and 2.75 cumulative grade point average, completion of general education requirement in history/anthropology and government, and passed all sections of PPST. Concurrent enrollment in early childhood curriculum block. **FW**

212-413 Early Childhood Curriculum: Reading and Language Arts 5 Credits

Methods and materials for planning, assessing, implementing, and evaluating language arts curricula for early childhood (*birth-age 6*). Emphasis on developing process skills of emergent literacy, listening, speaking, and writing.

P: 212-303 and 212-307 and 212-309 and 326-300 and 2.75 grade point average, completion of general education communication skills, passed all sections of PPST. Concurrent enrollment in early childhood curriculum block. **FW**

212-414 Early Childhood Clinical Experience: Integrated Curriculum 2 Credits

Development of competencies in planning, teaching, and evaluating the integrated curriculum for the early childhood period. Participation in an early childhood setting required. **P:** 212-124 and 212-264 and 212-303 and 212-307 and 212-309, must have passed all sections of PPST and have 2.75 cumulative grade point average. Open only to students in early childhood certification concentration, concurrent enrollment in early childhood curriculum block. **FW**

212-430 Human Development: Aging Person 2 Credits

Survey of the field of gerontology focusing on what it means to grow old in the United States from a systemic perspective. Multicultural attitudes toward aging, the psychological, physical, social and economic needs and problems of the older population are addressed. Consideration will be given to the personal, familial, environmental and social resources of the older population.

P: 212-130 or 212-250 or consent of instructor. **FW**

212-480 Student Teaching in Preschool Programs 6 credits

Full-day student teaching in a school setting for one quarter based on the university's calendar with infants, toddlers, or preschoolers. Includes parent interaction and seminar sessions. **P:** professional program admission. **FW**

212-480B Student Teaching in Kindergarten 4 Credits

Directed teaching and community experience in selected kindergartens.

P: 212-303. **FW**

212-488 Intern Teaching 16 Credits

An alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one full semester.

212-490 Professional Issues: Human Development and Family Studies 2 Credits

Issues related to professional development in areas of human development and family studies. **P:** human development and family studies major; 2.5 grade point average in professional core; take prior to or concurrently with 212-491. **FW**

212-491 Practicum in Human Development and Family Studies 4-8 Credits

Practicum experience in human development and family studies. Student will be placed in community agency or organization and supervised by site supervisor and university supervisor. **P:** 212-490 and 2.5 grade point average in professional core; program director approval. **R FWS**

212-492 Student Teaching in Prekindergarten 8 Credits

Full-day student teaching experience at the prekindergarten level in a preschool setting, together with a weekly one-hour student teaching seminar session. The student teaching experience follows the calendar of the preschool. Not available to students who have taken 212-480A and/or 212-490.

P: 212-294, 212-344, 212-433, 212-685; a major studies grade point average of 2.75 and acceptance in "advanced standing" in Early Childhood program. **FWS**

212-493 Student Teaching in Kindergarten 6 Credits

Full-day student teaching in a school setting for one quarter based on the host school's calendar with kindergarten age children. Includes parent interaction and seminar sessions. **P:** professional program admission. **FW**

212-494 Student Teaching: Primary 6 Credits

Full-day student teaching in a school setting for one quarter based on the host school's calendar with grades 1, 2 or 3. Includes parent interaction and seminar sessions. **P:** professional program admission. **FW**

212-507 Parent Education/Involvement 2 Credits

Parent groups: training of leaders, survey of literature. Practicum with parent groups. **P:** 212-264. **FW**

212-524 Child Development II 3 Credits

Empirical study of physical, intellectual, social and emotional development of children. **P:** 212-124 and 212-264. **FW**

212-525 Divorced, Single Parent and Remarried Family 2 Credits

Trends and issues in divorce, single parenting and remarriage related to effects on adults, children and society. **FWS**

212-530 Adulthood and the Family 3 Credits

Study of adults in the family context during the early and middle years. **P:** 212-124. **W**

212-531 Hospice Clinical Experience 1-2 Credits

Work with an area hospice organization under the supervision of the hospice consultant or patient care coordinator. **P:** 212-351 or consent of instructor. **FWS**

212-535 Seminar on Self-Growth 2 Credits

Theories of the self; exploration of aspects of self-development and actualization. **P:** 212-350 or 212-524. **FW**

212-540 Family Caregiving to Dependent Elders 1 Credit

Unique challenges confronting adult children who provide care to aging parents. Government, agency, workplace and family policies and practices promoting and/or undermining family strengths and well-being. **FWS**

212-545 Exceptional Needs and Programming—Early Childhood 2 Credits

Program development and implementation for preschool mentally handicapped children. **P:** consent of department chair. **FW**

212-553 Dual Career Families 1 Credit

The dual career marriage as a form of family life; benefits and problems encountered. **FWS**

212-585 Family-Based Employee Assistance Programs 3 Credits

Structures and functions of employee assistance programs with employees and their families being the primary unit of analysis and service. **P:** consent of instructor and junior standing. **FWS**

212-590 Family Research and Methodology 3 Credits

Analysis of family theory, research methodology and selected topics in family relations. **P:** 212-250 and 212-350. **W**

212-595 Special Topics in Human Development 1-2 Credits

Special topics in human development; repeatable for different topics. **P:** junior standing. **R FWS**

212-601 Child and Family Law 3 Credits

Legal issues affecting children and families. **P:** 212-250, 212-350 and junior standing. **W**

212-605 Family Health Care: Issues and Dilemmas 2 Credits

A descriptive review of four health-care issues facing the American family with special emphasis on the impacts of advanced technology in health-care. **P:** junior standing or consent of instructor. **W**

212-607 Parent Counseling 2 Credits

Approaches and techniques for working with parents; observation and experience in childrearing problems parents face. **P:** 212-124 and 212-264. **W**

212-610 Family Impact Seminar 3 Credits

Content, methods and process of assessing impact of public policy on children and families. **P:** 212-250, 212-350, 375-510 or consent of instructor. **W**

212-615 Family Stress, Coping and Adaptation 1 Credit

Impact of family development and stress on individual and family well-being. **P:** 212-250. **S**

212-624 Advanced Child Study 3 Credits

A study of principles and review of literature pertaining to children. **P:** 212-124 and 212-264.

212-626B Special Topics in the Study of Family Life 1-3 Credits

Family life programs and literature; individual study of problems of personal or professional interest. **P:** 212-350 or consent of instructor. **R FWS**

212-626C Special Topics in the Study of Family Life 1-3 Credits

Family life programs and literature; individual study of problems of personal or professional interest. **P:** 212-350 or consent of instructor. **R FWS**

212-637 Seminar in Child Development 2 Credits

Special problems and aspects in child development; preference given to students' interests. **P:** consent of instructor. **FW**

212-638 Child Abuse and Neglect 2 Credits

Systemic nature, forms and indicators, and prevention of abuse/neglect. Factors contributing to, and intervention skills in, coping with the effects of abuse/neglect on children and families at risk. **P:** 212-124, 212-250, 212-264 and junior standing. **F**

212-650 Introduction to Marriage and Family Therapy 3 Credits

Conceptual frameworks and approaches to marriage and family counseling. **P:** consent of instructor. **F**

212-651 Marriage and Family Therapy Seminar 3 Credits

Application of basic counseling techniques in premarital, marital, family and couples-group counseling; supervised by professional marriage and family counselor. **P:** 212-650 or consent of instructor. **W**

212-653 Relationship Communication Training 2 Credits

Communication theories and skills applied to marital, family and other intimate relationships. Application of communication skills to personal relationships and professional work. (*Preferably, but not necessarily, have your premarital or marital partner with you*). **P:** consent of instructor. **F**

212-654 The Workplace and the Family 2 Credits

Linkages between families and workplace; corresponding consequences for individual family well-being and the workplace.

P: 212-124 and 212-250 or consent of instructor. **W ES-C**

212-664A Special Topics in Early Childhood Curriculum 1-3 Credits

Philosophy and methodology of early childhood education: problems confronting teachers. **R FWS**

212-664B Special Topics in Early Childhood Curriculum 1-3 Credits

Philosophy and methodology of early childhood education: problems confronting teachers. **R FWS**

212-665 Administration of Early Childhood Programs 2 Credits

A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs. Field trips required. **P:** junior standing. **F**

212-666 Family Planning 1 Credit

Factors influencing family planning; knowledge and services for effective family planning practice. **P:** one undergraduate course in family relations.

212-685 Seminar –**The Culturally Distinct Child and Family 2 Credits**

Study of cultural, ethnic, racial and economic influences on the child and family in the United States. Emphasis on knowledge and skills to improve human relations in settings serving young children and families.

P: 212-350; qualifies as Ethnic Studies Category A with 212-686. **FW ES-A**

212-686 Experience:**The Culturally Distinct Child and Family 1 Credit**

Intensive experience working directly with racial, cultural or economic groups whose background the student does not share.

P: prior or current enrollment in 212-685. Qualifies for Ethnic Studies Category A with 212-685. **FW ES-A**

212-690 Death Education and Counseling in Families 2 Credits

Death and dying theory; research, practice and application in education and individual and family counseling. **P:** 212-351 or consent of instructor.

212-693 Practicum in Child Development and Family Life 4-8 Credits

Practicum experiences in child development, family relationships and human resource management within a community agency, business or organization.

P: consent of instructor. **R FWS**

Apparel, Textiles and Design**214-109 Introduction to Interior Decorating 3 Credits**

Identification and application of design elements and principles as they relate to interior decorating. Identification of the professional role of the interior decorator. **FW**

214-112 Fashion Forecasting 3 Credits

Design elements and principles as related to apparel. Interrelationship of fabric and style of apparel. Identification of style trends for the fashion industry.

214-120 Introduction to Apparel/Textiles/Merchandising 2 Credits

Careers in fashion merchandising, clothing and textile industries terminology; professional and personal development. **FW**

214-140 Textiles 3 Credits

Selection, use and care of clothing and household fabrics: analysis of their components. **FW**

214-166 Apparel Construction 3 Credits

Construction theory and principles of fitting applied to garment construction. **P:** recommended: 214-140. **FW**

214-200 Fashion Fabrics 1 Credit

Current fabrics and their application in apparel and the home.

P: 214-140, 214-112. **FWS**

214-202 Quality Analysis of Sewn Products 3 Credits

Factors that influence quality levels in manufactured apparel and other sewn products. **P:** 214-120, 214-140. **FWS**

214-227 Basic Merchandising 3 Credits

Merchandising in department, specialty and discount stores; marketing strategies, operations, buying, trend merchandising, and fundamentals for apparel and hardlines. **P:** 214-120. **FW**

214-229 Visual Merchandising 3 Credits

Specialized study and application of merchandise/product presentation techniques for individual displays and store designs. Interpreting basic design elements and principles for display; selecting and using of appropriate tools, fixtures, and materials; coordinating visual presentations and other promotional activities to achieve marketing objectives. **FW**

214-274 Apparel Manufacturing 3 Credits

Production planning, quality control and analysis of apparel industry.

P: consent of instructor. **FW**

214-275 Apparel Grading/Marker Making 3 Credits

Size grade apparel patterns for various figure types. Make markers and plan cutting of fabric. **FW**

214-280 Flat Pattern 3 Credits

Develop paper patterns by varying a master pattern. Original garments are designed and constructed. **P:** 214-166.

214-285 Design for Apparel Production 3 Credits

Develop flat, float, specification and presentation drawings for interpretation by apparel industry personnel. Adapt designs from numerous sources for industrial use via a variety of media and CAD systems.

P: 214-112 and 214-166. **FWS**

214-329 Fashion Merchandising Promotion 3 Credits

Application of fashion merchandising promotion procedures: display, oral and written promotional communication, and publicity. P: 214-227. **FWS**

214-330 Home Furnishings Merchandising 2 Credits

Home furnishings merchandised by primary types of retail outlets.

P: 214-225 and 214-227. **FW**

214-368 Experimental Clothing 3 Credits

Application of problem-solving techniques in designing and constructing garments using client approach. P: 214-112, 214-140 and 214-280. **F**

214-374 Apparel Manufacturing Laboratory 3 Credits

Practical application of concepts and procedures involved in the manufacture of marketable apparel products. P: 214-274 and 214-275 and 214-280. **\$**

214-389 Logistics for Retail Merchandising 3 Credits

The market planning, acquisition, movement and maintenance of retail merchandise stocks. P: junior standing. **FW**

214-398 Field Experience 1-2 Credits

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries. P: 214-120. **FWS**

214-400 Self-Presentation in Business 1 Credit

Learn and practice skills of self-presentation in business and professional world. **FW**

214-409 Interior Decorating Studio 3 Credits

Analysis and application of decorating trends. Development of resource file of interior decorating trends and application of interior decorating concepts to specific client needs.

P: 304-204 and 304-304, senior standing or consent of instructor. **W**

214-430 Merchandise Planning and Control 4 Credits

Techniques of merchandising fashion departments: budgeting, assortment planning, managing inventory, buying for resale.

P: 160-206 and general education math requirement. **FWS**

214-449C Clothing, Textiles and Design Cooperative Education 1-6 Credits

Full-time supervised work experience with an approved clothing and textiles business/industry in an area related to the student's major concentration. Selection by application and interview.

P: 214-398, 2.75 minimum grade point average and junior or senior standing at time of enrollment. **\$ FWS**

214-449F Retail Co-op Education/Internship 1-6 Credits

Full-time work and training in an approved position at a preselected business related to the student's major. Selection by application and interview.

P: 214-398, 2.50 minimum grade point average, and senior standing at time of enrollment. **\$ FWS**

214-477 Study Abroad - American Fashion College 16 Credits

A program for selected students which offers an opportunity to study at the American Fashion College in London with the opportunity to travel in Europe.

P: open only to apparel design/manufacturing and retail merchandising and management majors. Requires a minimum grade point average of 2.5. Students must have completed 30 or more credits but not more than 96 credits. Students must have completed 16 credits at UW-Stout when applying. **F**

214-519 International Economic Trends in Textiles and Clothing 3 Credits

Economic importance of the textile and apparel industries in the United States and the world. P: 214-140 and 320-210. **FW**

214-525 Men's and Boys' Merchandising 1 Credit

Specialized techniques of merchandising men's wear and boys' wear: stock planning, market trends and controls. **FW**

214-527 Store Management 3 Credits

Develop management skills for retail stores of varying size.

P: 214-430 or consent of instructor. Senior or graduate standing. **FW**

214-533 Direct Mail Retail 3 Credits

Direct mail options available in retailing. Creation and development of appropriate vehicles. P: 160-370 and junior standing or consent of instructor. **FW**

214-535A Special Topics in Retail Merchandising and Management 1-3 Credits

Special topics in fashion merchandising. **R FWS**

214-545 Textiles for Interiors 2 Credits

Raw materials, fabric structures, specifications, and legislation related to quality, performance, and maintenance of textiles for commercial and household uses. **F**

214-550 Textile Evaluation 3 Credits

Problems in fiber identification, fabric performance and care; chemical and microscopic testing procedures; methods for gathering and interpreting data; individual problems. P: 214-140. **FW**

214-555 Special Topics in Apparel Design/Manufacturing 1-3 Credits

Special topics in clothing and textiles. P: junior standing. **R**

214-555A Special Topics in Apparel Design/Manufacturing 1-3 Credits

Special topics in clothing and textiles. P: junior standing. **R**

214-568 Engineered Tailoring 3 Credits

Industrial production methods applied to construction of tailored garments.
P: 214-166. F

214-581 Functional Clothing Design 3 Credits

Application of physical science theory to problems in clothing design: impact protection and thermal balance of the human body, structural properties of materials, and apparel forms. P: 214-368, 214-550. F

214-590 Practicum in Textile Design 3 Credits

Use of textile design techniques as means of artistic expression: stitchery, weaving, knotting, appliqué and hooking; emphasis on good design and creativity. P: 304-101 or consent of instructor. FW

214-594 Knit Design and Technology 3 Credits

Stitch formation and patterning of warp and filling knits. Influences on aesthetics and performance of knit fabrics. Design and production of knitted fabric and garments on a flat bed knitting machine, including use of CAD techniques. P: 214-140 and 214-285. \$ FWS

214-610 History of Costume – Ancient to European 3 Credits

Development of costume throughout the ages: fashion as it reflects past cultures and influences present day costume. F

214-611 History of Fashion – 19th Century to Present 3 Credits

A study of the evolution of fashion from the 19th century to the present concentrating on the impact of the fashion designer and changing fashion trends. W

214-617 Social and Psychological Aspects of Clothing 3 Credits

Social and psychological influence of dress on individual and group behavior patterns. FW

214-619 National Study Tour to Fashion Industry 1 Credit

Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market.

P: consent of instructor and junior, senior or graduate standing. R W

214-625 Mass Merchandising 2 Credits

Comparative history, planning, design, and techniques of merchandising and operations. P: 214-227, 214-389. FW

214-626 Fashion Retailing Practicum 4 Credits

Observation and structured experience in merchandising procedures dealing with complete operations and management of retail establishment.

P: 214-329 and 214-430 or consent of instructor. FWS

214-630 Advanced Merchandise Planning Control 3 Credits

Application of merchandise theory and techniques to budget, manage, and adjust actual purchases, inventory, and sales of an actual retail business.

P: 214-430 with 3.0 grade or better. FW

214-631 Service Management Strategies 3 Credits

Analysis of modes of service. Planning strategies leading to quality implementation, utilizing extensive case studies. Also offered as 150-631. FW

214-671 International Textile Apparel Sourcing 3 Credits

Explore global market sources of apparel products for the vertical channel of fashion marketing. Analyze sourcing strategies and evaluate domestic/international sourcing options considering human resources, transportation, communication, production capabilities, cultural priorities, political influences, costs, quality and technology. P: 320-210. FW

214-674 Apparel Manufacturing: Computer Management Systems 3 Credits

Computer use in managing apparel designs, manufacturing and data interchange. P: 214-275, 214-280, 214-274. \$ FW

214-680 Draping 3 Credits

Application of draping principles in design and construction of garments; emphasis on creativity. FW

214-685 Apparel Design Studio 3 Credits

Creation, development and formal presentation of original designs using flat pattern and/or draping techniques. Preparation of professional portfolio to include CAD and other illustrative materials representative of individual expertise. P: 214-285 and 214-581 and 214-680. \$ W

214-690 Advanced Fiber Design 1-3 Credits

Creative exploration of textile design: stitchery and appliqué. P: 214-590. W

214-693 Structural Design and Weaving 2 Credits

Experiences in loom weaving including two and four harness techniques.
P: 304-101 or consent of instructor. \$ FWS

214-694 Advanced Weaving Studio 2 Credits

Complex hand-weaving techniques: block theory, pile constructions, leno techniques and double cloth. Individual work encouraged.

P: 214-693 or equivalent. \$ FWS

214-695 Historic and Contemporary Fabrics 3 Credits

Analysis of designs and techniques of decorating historic and contemporary fabrics; contribution of decorative fabrics to enrichment of human experience. W

Food and Nutrition**229-101 Dietetics As a Profession 1 Credit**

Survey of types of dietetic and food service administration programs in the United States; role and function of staff; professional literature. F

229-111 Food Systems and Technology Futures 1 Credit

Introduction to food systems and technology with emphasis on trends, career opportunities and competencies required for success in the concentration areas of food systems management, food science, food merchandising and distribution, and food communication. F

229-124 Foods 4 Credits

Scientific principles and application in the selection, preparation and service of food. **FW**

229-202 Nutrition for Healthy Living 2-3 Credits

Food selection and eating patterns/standards, applied nutrition knowledge and interrelationships, nutrition information source analysis, weight management, the nutrition-exercise-fitness connection. Analysis of personal lifestyle and food patterns in relationship to optimal physical and mental well being.

FW GEH/PE HLTH

229-206 Nutrition in the Hospitality Industry 2 Credits

Basic principles with application to the hospitality industry. Basic physiological nutrition; cultural and psychological influences on food preference. Interpretation of nutrition information, food composition data, and discussion of appropriate products and services. Nutrition analysis and programming on and off the computer will be stressed. Not appropriate for students with credit in 229-202 or 229-212.

P: admission to Hospitality and Tourism Management program. **W**

229-212 Nutrition 3 Credits

Basic principles of nutrition applied to current issues in health maintenance.

P: 308-132 and 311-115 or 311-125. **FW**

229-220 Outdoor Cooking 1 Credit

Food preparation principles in cooking and serving outdoors; equipment for outdoor food preparation; foods for camping, backpacking and canoe camping; preparing wild game and gathering and preparing wild foods.

FWS

229-225 Special Topics in Food and Nutrition 1-2 Credits

Study of special topics in food and nutrition. **P:** consent of instructor. **RS**

229-236 Nutrition for Young Children 1-2 Credits

Impact of nutrition on growth, development and health of young children. Assessment of nutritional status, changing needs and eating patterns, the link between nutrition, dietary practices, and behavior, and translating current nutrition information into effective nutrition education strategies for children.

P: 229-202 or 229-206 or consent of instructor. **FW**

229-240 Food Science 4 Credits

Physical and chemical changes affecting selection, preparation and service of food. **P:** 311-201. **FW**

229-260 Menu Planning and Design 2 Credits

Principles of menu planning, design and production for commercial and institutional food establishments.

229-302 Food and Beverage Distribution Industry 3 Credits

An introductory course for students in the field of food and beverage merchandising and distribution. A study of history, evolution, classification, manufacture/production, packaging, distribution, and merchandising with an emphasis on trends and employment. Resource persons from industry and field trips will be utilized. **FWS**

229-305A Baking Processes: Yeast Breads 1 Credit FW**229-305D Baking Processes: Pastry and Pasta 1 Credit FW****229-308 Management of Food Production 3 Credits**

Development and application of management principles to decision making in small batch food production which is based on menu driven concepts.

P: 229-124 or 229-240, 229-212 or 229-202. **\$ FWS**

229-360 Nutrition Counseling: A Team Approach 3 Credits

Interdisciplinary team approach to individual and group client-centered nutrition counseling which includes assisting and advising clients on dietary information. Skills and techniques based on nutrition counseling theories that are most useful to registered dietitians in enhancing quality of life and planned nutrition intervention. **FWS**

229-380 Community Nutrition 3 Credits

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding, and evaluation. The role of the community nutritionist/home economist to help individuals, families, and communities solve nutrition problems.

P: 229-212 and 229-308 or concurrent registration. **W**

229-397 Field Experience 2 Credits**229-397C Field Experience (Seminar) 1-2 Credits**

Field experience related to the dietetic, food industry, food service administration or food and/or nutrition education areas. Prior approval of field position, 320 hours of work experience and seminar. Written reports required for two-credit option.

229-397E Field Experience 1-2 Credits

Field experience related to the dietetic, food industry, food service administration or food and/or nutrition education areas. Prior approval of field position, 320 hours of work experience and seminar. Written reports required for two-credit option.

229-407 Medical Terminology 2 Credits

Medical terminology primarily for dietetic students. Prefixes, suffixes, word roots, combining forms, special endings, plural forms, abbreviations and symbols. Word-building system used to learn new terms and to decipher unfamiliar terms and check their spelling. Emphasis is placed on spelling, definition and usage with opportunity for pronunciation practice. **FWS**

229-442 Basic Sensory Analysis 3 Credits

Basic understanding of the psychobiology and physiology of senses and the role both play in consumer product acceptance. Basic tests of sensory analysis, including both objective trained panel difference tests and subjective preference/acceptance tests. Appropriate for all majors who produce products for/or merchandise to consumers. **W**

229-446 Food Preservation 1 Credit

Principles and practical application of methods of food preservation and storage. **FWS**

229-449 Cooperative Education/Internship 1-6 Credits

Work and study in an approved position to gain business/industry experience. Entails recurring, supervised work periods, building and expanding on previous experiences. **P:** consent of co-op mentor. **\$ R FWS**

229-497E Field Experience:**Food Systems and Technology 1 Credit**

Food systems and technology area field experience. Approved field position, 320 hours of work experience, and development of concept/outline for written analysis paper. **P:** prior approval of field position.

229-497S Field Experience:**Food Systems and Technology 1 Credit**

Seminar: analysis, interpretation and synthesis of food systems and technology principles through a written paper and oral seminars following 320 hours of field work in an approved position. Integrates synergistic principles/activities from program courses and among concentrations.

229-505 Nutrition for the Aged 2 Credits

Nutrient requirements and food consumption patterns of the elderly; food services for aging Americans. **P:** 229-212 or consent of instructor. **W**

229-520 Advanced Nutrition 3 Credits

Principles of human nutrition applied to individual, family, community and world problems. **P:** 229-212 and 311-511. **FW**

229-525 Special Topics in Food and Nutrition 1-2 Credits

Study of special topics in food and nutrition. **P:** consent of instructor. **R F**

229-525A Special Topics in Food and Nutrition 1-2 Credits

Study of special topics in food and nutrition. **P:** consent of instructor. **R F**

229-542 Advanced Foods 3 Credits

Comparative studies of food selection and preparation; appraisal of foods. **P:** 229-124 or 229-240. **FW**

229-555 Sports Nutrition 3 Credits

Nutritional and metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized.

P: 229-520, 308-132, 311-511 or consent of instructor. **WS**

229-560 Nutrition Counseling: A Team Approach 3 Credits

Interdisciplinary team approach to individual and group client-centered nutrition counseling which includes assisting and advising clients on dietary information. Skills and techniques based on nutrition counseling theories that are most useful to registered dietitians in enhancing quality of life and planned nutrition intervention. **FWS**

229-606 Nutrition Education 3 Credits

Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources. **P:** 229-212, 242-201, 229-308, 229-520 or consumer course if required in program, consent of instructor, and junior standing. **FW**

229-610 Food Policy Regulation and Law 3 Credits

Food and nutrition policy development and evolution. Key acts and agencies governing food regulation and law. process of creating or changing law. Compliance and enforcement rules in inspection, labeling, export and import. Administrative practice in food law including proceedings and judicial review. **P:** junior standing. **F**

229-612 Clinical Experience –**Community Nutrition Programs 1 Credit**

Practical experience with community nutrition program; basic nutrition program or food service operation and nutrition education activity. Recommended: 229-618 and 229-630. **P:** 229-308, 229-520, 229-606, 229-380. **FW**

229-618 Diet Therapy 4 Credits

Principles and methods for use of diet as therapy in certain pathological conditions. **P:** 229-308, 229-520. **FW**

229-620 Food Styling 1-3 Credits

Food as media for artistic expression; effective use of color, form and texture. **P:** 229-124 and senior or graduate standing or consent of instructor. **R FWS**

229-633 Maternal and Child Nutrition 3 Credits

Application of principles to maternal, infant, child and adolescent nutrition. **P:** 229-212 and 308-132. **FW**

229-638 Experimental Foods 3 Credits

Experimentation with selected food materials, techniques and equipment; directed study in individually chosen area.

P: 229-124 or 229-240 and 311-201. **FW**

229-650 Food Processing 3 Credits

Industrial methods used to prepare and preserve food.

P: 229-124 or 229-240, 355-120. **W**

229-651 Food Engineering 3 Credits

Application of pertinent chemistry, physics and mathematics principles to food processing. **P:** 311-201, 372-211, 355-153, 355-154 and 229-650. **F**

229-661 Multicultural Aspects of Food and Nutrition Patterns 3 Credits

Food and nutrition patterns as influenced by social, religious, geographical, economic and political factors. Cultures emphasized include Native American, African American, Hispanic and Asian American. Food as a means of cross-cultural communication. **P:** 229-124 or 229-240 and senior or graduate standing or consent of instructor. **FW ES-C**

229-697 Field Experience 2 Credits

Home Economics Education

242-101 Experiential Learning in

Home Economics Educational Services 2 Credits

Contribution of home economics education to development of individuals and families; responsibilities of a professionally trained home economist. **F**

242-201 Presentation Strategies for Home Economics 2 Credits

Study of presentation strategies appropriate in the home economics field. **FW**

242-240 Clinical Experience in Microteaching 1 Credit

Microlessons with microclasses will be videotaped and reviewed for self-evaluation and critique with instructor. **FW**

242-241 Clinical Experiences in the Community 1 Credit

Plan and implement home economics learning experiences for children and adults in community programs. **R FW**

242-301 Home Economics Curriculum 3 Credits

Development of curriculum to meet needs of students in home economics programs. **P:** junior or senior standing. **FW**

242-341 Clinical Experience in Schools 1 Credit

Supervised experience in classroom teaching for development of motor, perceptual, social and cognitive learning through home economics substantive areas. Recommended: 242-240. Repeatable, one time only.

P: junior standing. **R FW**

242-448 Student Teaching -

Home Economics Education/Family Life 16 Credits

Student teaching practicum in K-12 settings in home economics education/family life. **P:** 242-301, 242-460; recommendation of home economics education screen committee and grade point average of 2.75. **FW**

242-460 Home Economics/Family Life Evaluation 2 Credits

Develop evaluation for home economics subject matter and critical-thinking skills. Not applicable to occupational certification.

P: 242-301 or concurrent enrollment.

242-488 Internship Teaching 8 Credits

Alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one semester. **P:** 242-301. **FW**

242-500 Externship -

Home Economics Community Education 4-8 Credits

Practicum in one or more of the following home economics education programs: extension services, elementary education, post-secondary education, occupational teaching experience and community educational services. Approval of graduate program director required if taken for graduate credit.

P: consent of department chair. **FW**

242-503 Home Economics

in the Middle and Elementary School 3 Credits

Develop techniques, materials and curriculum concepts in home economics with application of human growth and development principles for teaching in middle and elementary school. **W**

242-544 Future Homemakers of America Workshop 1-2 Credits

Integration of Future Homemakers of America and the Home Economics Related Occupations student organizations into the home economics classrooms and programs. **P:** junior standing.

242-597 Field Experience in Home Economics 2 Credits

Field experience related to home economics skills and knowledge used in teaching home economics wage earning courses at secondary level.

FWS

242-620 Vocational Programs in Home Economics 2 Credits

Techniques, materials and curriculum for home economics wage-earning programs in secondary and post-secondary schools; preliminary procedures for program development. **P:** 199-502 and 242-301. **FW**

242-630 Concepts of Extension Education 2 Credits

Concepts and processes in conducting educational programs for adults and youth: philosophy, objectives and organization of extension education; leadership, development, program development, teaching methods and evaluation. **P:** senior standing in family and consumer educational services or graduate standing in home economics. **W**

242-651 Family Life Education Programs 2 Credits

Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level. **P:** senior standing and consent of instructor. **FW**

Hospitality and Tourism

245-100 Introduction to Hospitality 2 Credits

Exploration of the major components and organization structure of the hospitality industry. Presents historical development, opportunities and current trends. Stresses the importance and relationship of education and work experience to career success. **FW**

245-200 Introduction to Property Management 2 Credits

Management in commercial and multi-family property. Employees, management tools, government involvement, community development, clients, property law and tax requirements. **FWS**

245-201 Housekeeping Procedures 2 Credits

Management principles applied to duties and responsibilities of housekeepers in hotels, motels, institutions and other hospitality enterprises. **FW ES-C**

245-202 Front Office Operations 3 Credits

Principles required to organize and operate hotel or motel front office guest needs, salesmanship and procedures for different types of front office operations. **FWS**

245-205 Hospitality Organization Management 3 Credits

Management principles for hotels and restaurants, supervisory development and training, labor relations, union contracts, ownership and financial structure, and managerial interpretation and evaluation of current systems and procedures. **P: 245-100. FW**

245-222 Institutional Food Purchasing 2 Credits

Methods of large-quantity food purchasing; determining standards, specific needs and industrial offerings; formulating specifications, buying procedures and controls. **P: 229-124. FW**

245-240 Introduction to Tourism 2 Credits

Principles and current knowledge of domestic and international tourism; benefits to community, area, state and nation; trends and potentials. **FWS**

245-249 Cooperative Education/Internship 1-6 Credits

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one. **\$ R FWS**

245-250 Family Housing 3 Credits

Relationship of space, equipment, aesthetics and culture to human habitat. **FW**

245-310 Introduction to Wines and Spirits 3 Credits

Applied and historical knowledge of wines and spirits from different regions of the world; emphasis on preparation, selection, accompaniment with food, basic cost control analysis and service.

P: 229-124 or consent of instructor and legal drinking age. \$ FWS

245-311 Quantity Food Production 4 Credits

Quantity food production management concepts; menu planning, work production schedules, production analysis, food and labor cost controls, and sales projections, crisis and service management techniques; lab work in quantity food production and service; recipe development and introduction to productivity and work simplification concepts.

P: 229-124 or 229-240 and 229-206 or 229-212 or consent of instructor. FWS

245-312 Restaurant Operational Management 3 Credits

Application of the principles of food and beverage management in full-service restaurants existing as independent units or as units within a commercial/non-commercial food service operation. The course will emphasize fine dining, fine cuisine and control systems. **P: 229-124 and 245-311. FWS**

245-340 Development of Tourism Attractions 3 Credits

Diversified natural and man-made background tourism elements (BTE): preservation and incorporation of concepts for development of tourism destinations. **P: 245-240 and 320-210. FWS**

245-341 Tourism Goods and Services 3 Credits

Analysis of tourism goods and services in relationship to future patterns of supply and demand. **P: 245-240 and 320-201. FW**

245-344 Hospitality Marketing and Sales 3 Credits

Analysis of theories, fundamental principles and techniques of hospitality marketing and convention sales; functions, interrelationships and coordination of all hospitality departments and their roles in assuring success of marketing effort. **P: junior standing or consent of instructor. FWS**

245-348 Hospitality Convention/Meeting Planning 2 Credits

The roles and responsibilities of professional hospitality meeting planners and hotel convention sales/service managers are examined for purposes of planning or hosting a major convention, or a corporate, association, or special group meeting event. **P: 245-344 or consent of instructor. FWS**

245-349 Cooperative Education/Internship 1-6 Credits

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

P: 245-249 and consent of co-op mentor. \$ R FWS

245-360 Consumer Economics 3 Credits

Motives for consumption, family income and expenditures, selection of commodities and services, buying and selling practices; evaluate consumer aids, investigate local situations. **P: 320-201. FW**

245-370 Hospitality and Tourism Accounting 3 Credits

Design and interpretation of specialized accounting and financial control systems in management decision making; uniform system of accounts, departmentalized costing procedures, statement analysis and interpretation.

P: 160-206. FW

245-371 Food, Beverage and Labor Cost Controls 3 Credits

The use of financial techniques and systems to control food, beverage and labor costs in hospitality food service operations. **FWS**

245-375 Computer Systems for Food Service 2 Credits

Functions of computers in a variety of food service operations with specific emphasis on spreadsheets and food service application software. Experience using state-of-the-art technology and microcomputers.

P: 245-311 and 245-371 or consent of instructor. W

245-381 Property Management Applications 2 Credits

Lease management for residential, commercial, institutional and industrial types of real property. Computer-based applications.

P: 245-200 or consent of instructor. FW

245-397 Field Experience 2 Credits**245-398 Hospitality and Tourism Field Experience 1-2 Credits**

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area.

P: 245-100. FWS

245-436 Commercial and Residential Lighting 2 Credits

Practical information on light for general residential living; sociological, psychological and physical aspects of lighting environment. **F**

245-449 Cooperative Education/Internship 1-6 Credits

Work and study in an approved position to gain business/industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

P: 245-205, 245-240, 245-311, 245-371, consent of co-op mentor. \$ R FWS

245-455 Kitchen Planning 2 Credits

Arrangement of work centers, equipment, storage and activities for maximum efficiency in residential kitchen design. P: 245-250 or consent of instructor. FS

245-482 Seminar in Hospitality and Tourism Management 3 Credits

An advanced course in management. The student will select and research a current topic of importance to the industry. R

245-498 Hospitality and Tourism Field Experience 1-2 Credits

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area.

P: 245-100. FWS

245-501 Food Service Administration 3 Credits

Organization and administration of institutional food service systems, personnel selection and training, cost control and problems of supervision.

P: 229-318. FW

245-506 Club Management 3 Credits

Managing a membership, city, health and fitness, military, golf, or other social or recreation club. FW

245-515 Lodging Administration 3 Credits

Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization. P: 245-201 and 245-202. FS

245-521 Food Service Equipment 2 Credits

Factors affecting design, selection, physical facilities and utilities involved in food service equipment. P: 183-110. FWS

245-549 Cooperative Education/Internship 1-6 Credits

Work and study in an approved position to gain business and industry experience. Generally entails recurring, supervised work periods, each one building and expanding on the previous one.

P: 245-449 and consent of co-op mentor (*undergraduate credit*). Students must be enrolled in a graduate program and have consent of co-op mentor for graduate credit. \$ R FWS

245-550 Fast Food Operations 3 Credits

Organization and function of fast food service operations. Work methods procedures, staffing, food quality and quantity control, space and maintenance, safety, sanitation, merchandising and career options will be covered. (*Not available for credit to students who have taken 229-550.*) FW

245-600 Integrated Management Systems— Hospitality 2 Credits

Exploration, comparison and synthesis of practices, concepts and theories in hospitality management systems. P: 245-205. FWS

245-614 Catering 3 Credits

Theory and application of operational and managerial principles for on- or off-premise catering for special events. (*Not available for credit to students who have taken 229-514.*) P: 229-124, 229-260 or consent of instructor, junior standing or higher. FW

245-625 Hospitality Industry Law and Liability 3 Credits

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality. P: 160-318. FW

245-626 Hospitality Industry – Employee and Labor Relations 2 Credits

Investigation of employee and labor relations in the hospitality industry; history, legality and techniques of dealing with unionization. FW

245-640 Sociocultural System of Tourism 3 Credits

Various psychosocial dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists, tourists and residents. W

245-644 Resort Planning and Operation 3 Credits

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management.

P: 245-340 or consent of instructor. W

245-645 Geography of Tourism 3 Credits

Locational analysis of land use and human migration in national and international tourism. P: 245-240, 245-340 or consent of instructor. FW

245-656 Microwave Oven 2 Credits

Application of microwave heating principles to food preparation and service. FWS

245-660 Consumer Credit 1 Credit

Types and sources of credit, determination of credit costs, considerations before using, and regulatory laws. P: 245-360 or consent of instructor. S

245-663 Consumer Law 1 Credit

Major federal and state consumer protection laws, difficulties in obtaining passage and implementation, and pending federal and state consumer protection legislation. P: 245-360 or consent of instructor. FW

245-670 Hospitality – Financial Analysis/Budget/Forecasting 3 Credits

Application of accounting and financial analysis techniques to managerial decision-making in hospitality industry.

P: 160-206, 245-370 and 245-371. FWS

245-676 Family Finance 2 Credits

Financial decisions and judgments that average individuals and families must make during a lifetime; income and occupation, family expenditures, credit, savings, taxes and estate plans. P: 320-201. FW

245-678 Financial Planning for Retirement 2 Credits

Financial considerations made in preparing for and during retirement. Emphasis on the values, goals, income, expenditures, credit, savings, investments, taxes and estate plans. **P:** senior standing. **FWS**

245-681A Special Problems in Hospitality and Tourism 2 Credits

Current problems in hospitality and tourism; topic chosen by instructor, individual or group. **R FWS**

245-682 Hospitality and the Handicapped Traveler 1 Credit

Provide increased sensitivity to needs of handicapped traveler; problems and possible solutions for hospitality organizations. **FW**

245-684 Seminar in Property Management 2 Credits

Culminating professional course for the property management minor program. Preparation of a property management plan for a specific property. Discussion of current trends and industry problems.

P: reserved for final semester for students in Property Management minor. **W**

Interdepartmental - 300**300-101 Computer Literacy 2 Credits**

Brief interdisciplinary introduction to computers, including the areas of hardware, software, history, programming logic and language, different types of systems and applications of computers in various areas. A student who takes 354-142 Computer Applications in Business cannot also get credit in Computer Literacy. **FW**

300-201 Edinburgh Experience 1 Credit

Introduction to the city of Edinburgh and the arts of Scotland including music, theater and dance through attendance and critique of events during the Edinburgh Festival. Offered only at the Wisconsin in Scotland (WIS) Center. **F**

300-210 Introduction to Women's Studies 2 Credits

An examination of the experience of women in American society, their past and present contributions and roles, and perspectives on the future. **FW ES-B**

300-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor and department chair. **\$ FWS**

300-250 Soviet Seminar Tour 2 Credits

Introduction to Russian civilization and contemporary Soviet society and government: tours of schools, museums, churches and historical sites; seminars with Soviet students and community leaders. **W**

300-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor and department chair. **\$ FWS**

300-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor and department chair. **\$ FWS**

300-511 Topics in Women's Studies 1-3 Credits

Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies.

P: 300-210 or consent of instructor. **R**

300-575 The Ascent of Man 2 Credits

Exploring the nature and intellectual, philosophical and technical growth of humankind using "The Ascent of Man" TV series as basis for thought and discussion. **P:** junior standing or consent of instructor. **W**

Anthropology**303-220 Cultural Anthropology 3 Credits**

Introduction to concepts and methods; variability of culture; outline of cultural elements; processes of cultural change. **FW GES/BSCI ANTH ES-B**

303-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor and department chair. **\$ FWS**

303-250 The Human Past 3 Credits

Biological anthropology: humans as primates, origins of humans, stages of human evolution, and relationship of biology and culture. **FW GES/BSCI ANTH**

303-300 Native Americans 3 Credits

North American Indians: Native American cultures prior to European contact, Indian/European historical relationships, and contemporary reservation/urban Indian life and issues. **F GES/BSCI ANTH ES-A**

303-349 Cooperative Education Program 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

303-410 Cultural Orientation and Field Experience Abroad 2 Credits

Practical and theoretical intercultural orientation for the study/living abroad experience and evaluation of this field experience upon return. Students must have a study abroad experience to complete the requirements of this course.

303-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

303-610 The Anthropological Study of Family Systems 3 Credits

Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions.

P: 303-220 or consent of instructor. W

303-630 Ojibwe Lifeways 4 Credits

In-depth, interactive study of Ojibwe culture within a Wisconsin reservation community. \$ S ES-A

303-660 Anthropology of Human Relations 2 Credits

Human relations, viewed intraculturally and cross-culturally, explored through family culture and its networks with the greater society, world view systems, and communication patterns. Applications to specific Wisconsin cultures. W

Art and Design**304-100 Drawing I 3 Credits**

Concentration on the development of visual sensitivity through drawing with various media. FW GEHUMART CR/PRF

304-101 Fundamentals of Design 3 Credits

Basic two- and three-dimensional design using various media for development of visual sensitivity. FW GEHUMART CR/PRF

304-102 Introduction to Art and Design 1 Credit

Introduction to various disciplines and activities in art and design. Not appropriate for general education requirement. FW

304-145 The Practice of Art 2 Credits

Introduction to creative concepts, techniques of presentation, practices in studio art, function of criticism, portfolio ingredients and opportunities in the art world. S

304-202 Introduction to Art 3 Credits

Art appreciation and historical survey for the non-art major. F GEHUMART ART/MU

304-204 Interior Design 3 Credits

Design and development of interior spaces with a sensitivity to human interaction, materials, and furnishing. P: 304-101. \$FW

304-210 Letter Form Design 3 Credits

Design of letterforms, figures, and visual symbols; history and development of type; calligraphy; page composition for various formats and audiences.

P: 304-100, 304-101. \$ F

304-220 Computer Imagery 3 Credits

Digital aesthetics using digital technology: the creation of images and illustrations, in both hard copy and digital formats, using bitmap, modeling, rendering and multimedia programs.

P: 304-101 and 304-500 and 130-251 or permission of instructor. \$ FWS

304-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ R FWS

304-256 Art Workshop 1-3 Credits

Selected art concepts, processes and media will vary to serve special student populations. Credit determined by individual contract.

P: consent of instructor. R FWS

304-300 Design Theory and Methods 3 Credits

A study and application of various techniques and theories of design to fundamental design problems. P: 183-205 or 304-101. FW

304-304 Interior Design II 3 Credits

Design problems for interior spaces with emphasis on concepts, human interaction and materials. P: 304-204. \$FW

304-305 Presentation Techniques 3 Credits

Experience in the various techniques of visually developing and presenting a design. FW

304-310 Graphic Design I 3 Credits

Study and creation of visual images used to inform and/or persuade specific audiences. P: 304-101. \$FW

304-314 Interior Design Procedures and Specifications 2 Credits

Professional procedures and specifications for interior design proposals; quality control, material performance, public standards and use of related forms.

P: 304-204. S

304-315 Environmental Interior Design I 3 Credits

Analysis and application of various office systems as they apply to and are a part of an architectural setting. P: 304-204.

304-316 Environmental Interior Design II 3 Credits

Analysis and application of various systems in an architectural setting for use in the design of public spaces, such as banks, malls, restaurants and hotels.

P: 304-204.

304-319 Evolution of Design 3 Credits

Examination of basic concepts which influence the evolution of architecture, art and design. S

304-320 Interior Furniture Design 3 Credits

Applied studio projects with structural, material, economic and aesthetic considerations in the design of contemporary furniture. FW

304-330 Industrial Design I 3 Credits

First course in the industrial design sequence providing an overview of design skills in their application to the resolution of product design problems.

P: 304-300 and 304-305 or 183-205. \$FW

304-335 Product Form Design 3 Credits

Exploration of product forms through drawing and model-building techniques.

P: 304-300, 304-305, 304-330, 181-102, 181-103. \$ FWS

304-340 Industrial Design II 3 Credits

Increased understanding of design as applied to the resolution of complex product design. P: 304-330. \$ FW

304-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

304-360 Graphic Design II 3 Credits

Application of social, business and ethical factors affecting visual communication, while increasing sensitivity and experience in graphic design.

P: 304-310. \$ FW

304-380 Signage and Exhibition Design 3 Credits

Organization and design of environmental graphics through the production of signage, display, and exhibition support systems.

P: 304-360. \$ S

304-382 Information Design 3 Credits

Envisioning information through the design and production of charts, diagrams, maps, and other hierarchical graphics. P: 304-360. \$ FW

304-384 Advertising Design 3 Credits

Graphic design principles and creative concepts as applied to advertising art.

P: 304-305 and 304-360, 160-370 or concurrent enrollment. \$ FW

304-386 Publication Design 3 Credits

Graphic design principles as applied to the combination and coordination of art and typography with text. P: 130-140 and 130-251 and 304-360. \$ FW

304-388 Typographic Design 3 Credits

Design of grid-based, hierarchical and expressive typographic structures; analysis of historical and theoretical precedents. P: 304-360. \$ FW

304-405 Advanced Presentation Techniques for Designers 3 Credits

Techniques and skills for presentation and communication of visual materials; advanced perspective, mixed-media rendering, transparent watercolor rendering, gouache rendering applied to presentation of product's interiors and exteriors. P: 304-305. FW

304-410 Product and Packaging Graphics 3 Credits

Design and application of graphics to products, packages, and related display systems. P: 304-360 (or 304-310 with instructor consent). \$

304-415 Environmental Interior Design I 3 Credits

Analysis and application of various office systems as they apply to and are a part of an architectural setting. P: 304-304. \$

304-416 Environmental Interior Design II 4 Credits

Advanced interior design topics, with extensive projects, including all phases of current interior design professional practice and incorporation into student portfolio. P: 304-415. \$

304-430 Industrial Design III 4 Credits

Advanced design problems chosen by consultation between student and instructor. P: 304-330 and 304-340. \$ FW

304-431 Symposium in Interior Design 2 Credits

Exposure to and discussion of the practical working world of the interior designer. P: concurrent enrollment in 304-316. FW

304-432 Industrial Design Portfolio 1 Credit

Role and actual development of an industrial designer's portfolio with emphasis on importance of the portfolio in communicating with prospective employers throughout the career. P: 304-340. FW

304-440 Industrial Design IV 4 Credits

Professional level of understanding and skill applied to advanced design problem chosen in consultation between student and instructor.

P: 304-430. \$ FW

304-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

304-451 Interior Design Practicum 3 Credits

Work experience with an interior designer or in design-related field arranged with interior design work experience coordinator. P: 304-204. FW

304-480 Senior Project - Graphic Design 4 Credits

Exploration of an advanced graphic design topic through an extensive project: research, production specification, and development of a presentation system.

P: 304-380 and 304-410. \$

304-500 Drawing II 1-3 Credits

Continuation of 304-100; exploitation of media for creative and expressive ends. Initial enrollment must be for three credits. P: 304-100. R FW

304-501 Life Drawing I 3 Credits

Drawing the human figure in action or at rest; problems in figure composition.

P: 304-100 and 304-500. FW

304-502 Life Drawing II 1-3 Credits

Advanced problems in figure composition and graphic interpretation of the figure. Initial enrollment must be for three credits. P: 304-501. R FW

304-503 Design 3 Credits

Application of basic design principles using various media for development of visual sensitivity to three-dimensional form. P: 304-101. FW

304-509 Painting I 3 Credits

Introduction to character and use of various painting media; work from still life and life with reference to problems of two-dimensional color composition.

P: 304-500. FWS

304-510 Painting II 1-3 Credits

Advanced work in oil painting; exploitation of medium for creative and expressive ends. Initial enrollment must be for three credits. P: 304-509. RFWS

304-511 Sculpture I 3 Credits

Introduction to sculptural concepts.

P: 304-500 or equivalent. FW GEHUMART CR/PRF

304-512 Sculpture II 1-3 Credits

Advanced problems in sculpture; exploitation of media for creative and expressive ends. Initial enrollment must be for three credits. P: 304-511. RFW

304-513 Ceramics I 3 Credits

Basic design and techniques of ceramic production for artist/potter; forming, firing and surface treatment. FWS GEHUMART CR/PRF

304-514 Ceramics II 1-3 Credits

Use of clay, glazes and kiln for design and production of high-fired ceramics. Initial enrollment must be for three credits. P: 304-513. RFWS

304-515 Art Metal I 3 Credits

Design and construction of jewelry and objects in precious and non-precious materials with relationship to human interaction.

P: 304-101 or equivalent. FWS GEHUMART CR/PRF

304-516 Art Metal II 1-3 Credits

Advanced problems in design and construction of jewelry, hollow forms and objects in precious and non-precious materials. Initial enrollment must be for three credits. P: 304-515. RFWS

304-517 Printmaking I 3 Credits

Introduction to the concepts and techniques of printmaking.

P: 304-100 and 304-101. FWS

304-518 Printmaking II 1-3 Credits

Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking. Initial enrollment must be for three credits.

P: 304-500 and 304-517. R WS

304-520 Clay and Glaze Laboratory 1 Credit

Procedures and processes in testing of clays; formulation of clay bodies and development of clay slips and ceramic glazes for artist/potter.

P: 304-513 or 304-514 or consent of instructor.

304-522 Modern Art 3 Credits

The main currents and developments in art from Monet and Cezanne to 1950. F

304-523 Survey of Art – Ancient Through Medieval 3 Credits

The painting, sculpture, architecture and minor arts in the ancient western world. GEHUMART ART/MU

304-524 Survey of Art – Renaissance Through 20th Century 3 Credits

Sculpture, painting, architecture and minor arts of western world from 14th century to present. GEHUMART ART/MU

304-526 Greek and Roman Art 3 Credits

The arts of ancient Greece and Rome.

304-527 Medieval Art 3 Credits

The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages.

304-530 Northern Baroque Art 3 Credits

Architecture, painting, sculpture and other art forms of 17th century Northern Europe.

304-532 Economics of House Furnishing 3 Credits

Study of consumer house furnishing problems based on utilitarian, economic, aesthetic and social values of household commodities. Quantity and quality budgets at different price levels. Visits to house furnishing markets. F

304-533 Period Furnishings 3 Credits

A survey of furniture and furnishings in the western world. F

304-545 Senior Seminar 1 Credit

Professional practice including portfolio and senior exhibition; current ideas and career opportunities within the art profession.

P: senior standing in studio art concentration or art education program. S

304-556 Advanced Art Workshop 1-3 Credits

Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in Art program. Credit determined by individual contract. P: consent of instructor. R

304-602 American Art 3 Credits

Development of visual arts in the United States from colonial period to 1950.

304-603 19th Century Art in Europe 3 Credits

History of European art from about 1800 to 1900.

304-604 Art Since 1950 3 Credits

Developments in painting and sculpture in Europe and America since 1950.

304-606 Oriental Art 3 Credits

Art from prehistoric times to 19th century in China, Japan and their spheres of influence.

304-607 Aesthetics 3 Credits

Examination of the philosophers of contending theories in art.

P: 304-522. FW

Art Education

305-208 Preteaching Observation 2 Credits

Art education practices in K-12 classrooms through on-site observations, teaching-related activities and discussions. (A minimum of 50 hours of observation required.) **F**

305-302 Introduction to Teaching Art in Elementary Schools 2 Credits

Art education knowledge and skills for elementary-school teaching.

P: 305-208 or consent of instructor. **FW**

305-303 Introduction to Teaching Art in Secondary Schools 2 Credits

Art education knowledge and skills for secondary-school teaching.

P: 305-208. **FW**

305-311 Curriculum Development for Art Education 2 Credits

Development of a sequential K-12 art curriculum: needs and methods.

P: 305-208, 305-302 and 305-303. **W**

305-322 Art Education – Elementary 3 Credits

Theory, methods and curriculum development with art teaching practicum for teaching elementary art. Focus on theory and practice.

P: 305-208, 421-303, 421-312, 421-326 and consent of instructor. **\$ W**

305-323 Art Education – Secondary 3 Credits

Theory, methods and curriculum development with art teaching practicum for teaching secondary art. Focus on theory and practice.

P: 305-208, 421-303, 421-312, 421-326 and consent of instructor. **\$ W**

305-408 Student Teaching in the Elementary School – Art 8 Credits

Directed teaching and community experience in selected off-campus elementary schools. **P:** 305-303. **FW**

305-409 Student Teaching in the Secondary School – Art 8 Credits

Directed teaching and community experience in selected off-campus secondary schools. **P:** 305-303. **FW**

Biology

308-122 Introductory Biology 3 Credits

Principles of biology: cellular metabolism, heredity and relationships between living organisms and their environments, with laboratory.

FWS GENSCI LFSC LAB

308-125 Biology of Aging 3 Credits

Understanding the aging process. Physiological, demographic, immunological and overall health aspects of aging. **W** GENSCI LFSC

308-132 Physiology and Anatomy 4 Credits

Basic concepts of physiological processes and anatomy of all organ systems of humans, based on dissection of a cat; embryological development.

FWS GENSCI LFSC LAB

308-134 Physiology and Anatomy for Health Sciences 4 Credits

Introductory human anatomy and physiology with emphasis on physiological mechanisms which maintain homeostasis. Students may not receive credit for both 308-134 and 308-132. **FW** GENSCI LFSC LAB

308-142 Botany 4 Credits

Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life.

FW GENSCI LFSC LAB

308-150 Environmental Science 2 Credits

The relationship of humans to the natural environment. Study of ecological principles in relation to contemporary problems such as resource utilization, human population dynamics, waste and pollution control.

FWS GENSCI LFSC

308-152 Zoology 4 Credits

Introduction to fundamental concepts of animal life, survey of animal kingdom, structure and physiology of representative animals, evolutionary relationships.

FW GENSCI LFSC LAB

308-162 Biotechnology 3 Credits

Techniques of modern biotechnology, emphasizing laboratory production and analysis of recombinant DNA.

P: high school biology and chemistry, or equivalent. **FW** GENSCI LFSC LAB

308-206 Food Service and Environmental Sanitation 1 Credit

Microbial problems in food service industry: sanitation, storage, handling, distribution, serving, personnel, equipment and facilities. **FW**

308-220 Physiology of Disabilities 3 Credits

Etiology, pathology, clinical symptoms, prognosis, treatment, physical limitations resulting from specific diseases and disabilities.

P: 308-132 or consent of instructor. **FW**

308-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

308-306 General Microbiology 4 Credits

Structure and physiology of yeasts, molds and bacteria; growth requirements, methods used in culture and identification, bacterial analysis of water and milk, other problems in sanitation and food bacteriology. **FW**

308-310 Human Sexual Biology 3 Credits

Structure, function and coordination of human reproductive organ system; reproductive cell formation and function; problems of fertility, sterility, sexuality, birth control and relationship to population challenges.

P: 308-122 or 308-132. **FW** GENSCI LFSC

308-332 Genetics 2 Credits

Fundamental principles of genetics, their functions and applications to plants, animals and man. **FW GENSCI LFSC**

308-333 Genetics Laboratory 1 Credit

Perform genetic crosses to reinforce understanding of principles of heredity; *drosophila* (fruit fly) will be primary experimental organism. Experience in test breeding, observing, tabulating and interpreting results, as in actual genetic research. **P:** 308-332 or concurrent registration. **FW GENSCI LFSC LAB**

308-342 Community Hygiene 2 Credits

Disease prevention through education, sanitation, isolation and immunization; public health programs and operation of federal and state laws.

FWS GEH/PE HLTH

308-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

308-350 Ecology 3 Credits

Interrelationships of organisms with their abiotic and biotic environments.

P: 308-122, concurrent registration or consent of instructor. **FW GENSCI LFSC LAB**

308-352 Applied Botanical Practice 3 Credits

Plant care, management and propagation skills. **P:** 308-142. **FWS**

308-355 Scientific Illustration 2 credits

Application of art/graphic skills to the field of scientific communication: illustration of biological specimens, physiological process, and graphs and tables. **P:** 304-500; junior or senior standing or consent of instructor. **F**

308-358 Introductory Pharmacology 2 Credits

Fundamental principles of major groups of drugs; actions and interactions in human body. (*Some science background recommended.*). **FW**

308-362 Advanced Physiology 3 Credits

Physiological processes: digestion, respiration, metabolism, excretion, circulation and muscle. Histological studies of blood, experiments with frog and turtle hearts, nerve and muscle preparation. Respiratory, nerve, circulatory and muscle experiments on human body. **P:** 308-132 or consent of instructor. **FW**

308-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

308-506 Food Microbiology 3 Credits

Methods of food preservation, their effectiveness and related food spoilage by microorganisms. Quality control techniques used to determine presence of specific groups of economically important microorganisms. **P:** 308-306. **FW**

308-650 Neuroanatomy 2 Credits

Cross and functional anatomy of the human nervous system with emphasis on the brain and autonomic division. **F**

308-651 Psychobiology 2 Credits

Biological basis of human and animal behavior: evolution of physiological and behavioral adaptations of organisms to their environment. **W**

Chemistry**311-115 General Chemistry 5 Credits**

Fundamental principles of chemistry with applications: composition and structure of matter, formation and naming of compounds, mole concept, writing and balancing chemical equations, types of reactions, elementary stoichiometry, bonding, states of matter, equilibrium, solutions, acids and bases. **P:** one year of high school algebra and demonstrated math proficiency for placement into 355-110 or above. **\$ FWS GENSCI PHYSC LAB**

311-125 Principles of Chemistry for Health Sciences 5 Credits

Principles of chemistry: general, reaction stoichiometry, equilibrium and thermodynamics. **\$ F GENSCI PHYSC LAB**

311-135 College Chemistry I 5 Credits

Principles of inorganic chemistry, properties of important elements and compounds. More rigorous approach and more extensive coverage than in 311-115. Normally followed by 311-136.

P: 355-120 or placement into 355-121 or above. **\$ FW GENSCI PHYSC LAB**

311-136 College Chemistry II 5 Credits

Reactions and properties of common elements and inorganic compounds, oxidation-reduction and solution equilibria; electrochemistry. Lab work in qualitative analysis for common ions. **P:** 311-135 or both 355-120 and 311-125 and consent of instructor. **\$ FW GENSCI PHYSC LAB**

311-201 Organic Chemistry I 4 Credits

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (*physical and chemical*), compound identification, reactions and reaction types.

P: 311-125 or 311-135 or consent of instructor. **\$ FW**

311-204 Organic Chemistry II Lecture 3 Credits

Continuation of organic chemistry I; organic reactions, organic compound synthesis, reaction to mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds. **P:** 311-201. **W**

311-206 Organic Chemistry II Laboratory 1 Credit

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis.

P: 311-201 and concurrent enrollment in 311-204. **\$ W**

311-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

311-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

311-440 Advanced Materials Laboratory 1-3 Credits

Student-devised laboratory experiments to solve a materials problem provided by the instructor. P: 311-115 or 311-125 or 311-135 and consent of instructor. R FW

311-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

311-501 Physical Chemistry Lecture 3 Credits

Fundamental physical chemistry; behavior of gases, liquid state, properties of solutions, principles of thermodynamics, thermochemistry. Taken concurrently with 311-503. Recommended: 311-531.

P: 311-115 or 311-125 or 311-135 and 355-156. FW

311-503 Physical Chemistry Laboratory 1 Credit

Lab course to be taken concurrently with 311-501. experimental techniques and apparatus; treatment of experimental data. Recommended: 311-531.

P: 311-115 or 311-125 or 311-135 and 355-156. \$

311-511 Biochemistry 4 Credits

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures. P: 308-132 and 311-201. \$ FW

311-515 Food Chemistry 3 Credits

Organic biochemistry of foods: enzymatic and non-enzymatic changes associated with food preparation and storage (*Maillard-Browning reaction*); denaturation of protein, changes in color, odor, texture and nutritive value. Techniques for isolation and identification of biochemical constituents of foods.

P: 311-115 or 311-125 or 311-135, 311-201 and 311-203. \$ W

311-531 Quantitative Analysis 3 Credits

Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques. P: 311-115 or 311-125 or 311-135. \$ F

311-535 Instrumental Methods of Analysis 3 Credits

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation. P: 311-115 or 311-125 or 311-135. \$ W

311-541 Chemistry of Materials 4 Credits

Relationship of the chemistry and microstructure of structural materials (*metals, polymers and ceramics*) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics. P: 311-115 or 311-125 or 311-135. \$ FW

311-553 Environmental Chemistry 3 Credits

Principles and origins of chemical reactions that lead to ecological imbalance; systems that have contributed to large-scale environmental pollution or are of current importance; chemical technology needed to correct imbalance.

P: 311-115 or 311-125 or 311-135. \$ FW

311-612 Advanced Biochemistry 3 Credits

Molecular biology of humans and other organisms; biosynthesis and catabolism, emphasizing enzyme action; chemistry of specific tissues and fluids.

P: 311-201, 311-203 and 311-511. FW

Industrial Hygiene**312-410 Industrial Hygiene Instrumentation 2 Credits**

Workplace environment evaluation using direct reading instruments and integrated sampling techniques in the laboratory.

P: to be taken concurrently with 312-542. \$ F

312-542 Industrial Hygiene 3 Credits

Principles and techniques for recognizing, evaluating and controlling existing or potential occupational health hazards that affect employee safety and health. P: 311-115 or consent of instructor. \$

312-652 Hazardous Waste Management 3 Credits

Management of hazardous wastes; compliance with governmental regulations in recognition, storage, shipping and reporting of hazardous wastes.

P: 311-115. \$ FWS

Economics**320-201 General Economics 3 Credits**

Introduction to basic elements of economics; analysis of institutions, issues and policy; theories of price, national income and employment. Not open to students taking 320-210 and 320-215. FW GES/BSCI ECON

320-210 Principles of Economics I 3 Credits

Basic economic concepts and economic institutions, national income and employment analysis, business fluctuations, money and banking; monetary fiscal policies. P: sophomore standing. FWS GES/BSCI ECON

320-215 Principles of Economics II 3 Credits

Price theory, income distribution, factor pricing, market mechanisms, functions of economic system, labor and collective bargaining and international economics. P: 320-210. FWS GES/BSCI ECON

320-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

320-325 Economic and Business Statistics 3 Credits

Method of collection, analysis, and presentation of economics, social, and business data. Ratios, frequency distributions, averages, variability, linear regression, correlation, time series analysis, and principles of index numbers.

P: 355-118 or equivalent. FW

320-335 Personal Securities Investments 2 Credits

Major aspects of security investments: common and preferred stocks, bonds, mutual funds. P: 320-201 or 320-210.

320-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

320-380 Business and Economic Forecasting 3 Credits

Survey of macroeconomic and microeconomic forecasting techniques, data collection and analysis. P: 320-215 and 320-325 or 354-130 or 354-530.

320-410 Microeconomics 3 Credits

Value and distribution theory; analysis of demand-firm, industry and utility, pricing of production factors. P: 320-215. F

320-415 Macroeconomics 3 Credits

Determination of aggregate income, employment, growth rates and price levels; monetary and fiscal policies necessary for full employment.

P: 320-215. W

320-420 Labor Economics 3 Credits

Basic labor theory; history of organized labor in western industrial societies; collective bargaining as viewed by labor, management, government and public; institutions involved in modern labor relations.

P: 320-201 or 320-210. FWS

320-421 Collective Bargaining and Labor Relations 2 Credits

Introduction to collective bargaining in the U.S.; formation, substance and administration of a labor agreement, current labor law, role of National Labor Relations Board. P: 320-201, 320-210 or consent of instructor. FWS

320-425 Economic Development 3 Credits

Social and economic factors underlying economic development. Capital formation, measurement of growth, population problems. Considers both theory and practical problems. P: 320-215.

320-435 Money, Banking, Financial Markets 3 Credits

Money and bank credit, modern monetary theories, monetary policy.

P: 320-201 or 320-210. F

320-440 Principles of Investment 3 Credits

Principles and techniques of investment for people in business, construction and management of security portfolios. P: 160-207.

320-445 Public Finance 3 Credits

Public finance at all governmental levels; taxation, expenditures, debt management and fiscal policy. P: 320-215. W

320-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

320-470 Economic Model-Building and Forecasting 3 Credits

Quantitative models and methods applied to forecasting; regression techniques. P: 320-215, 354-331 and 355-275 or consent of instructor. F

320-510 Women and Work 3 Credits

Issues pertaining to changes in women's roles in the paid labor force, including past and present participation, the female-male earnings gap, public policy, and employer response. FW ES-B

320-680 International Trade 3 Credits

Theory and practice of capital movements; foreign exchange rates and controls; balance of payments; tariffs. FW

English and Journalism**326-090 Writing Workshop 3 Credits**

Remedial writing course providing individual instruction to meet basic competencies for entry into 326-101, Freshman English—Composition. Will not count toward graduation. FW

326-101 Freshman English – Composition 3 Credits

Principles and practices of writing; documented paper.

P: acceptable score on English department placement exam or a grade of 2.0 (C) or better in 326-090. FWS GECOMMSK WRIT

326-102 Freshman English – Reading and Related Writing 3 Credits

Readings focused on a theme reflected in literature. Topics and approaches developed by each instructor; opportunity for responsible, independent study; requires intensive practice in composition. P: 326-101. FWS GECOMMSK RDG

326-111 Freshman English – Honors I 3 Credits

Readings in world literature and related writing for training in composition techniques; documented paper.

P: departmental selection based on ability. FW GECOMMSK WRIT

326-112 Freshman English – Honors II 3 Credits

Continuation of 326-111. P: 326-101 or 326-111 or departmental selection based on ability. FW GECOMMSK RDG

326-113 Honors Seminar I 3 Credits

Intensive reading and writing that examines topics in world literature from Shakespeare to the present. P: 326-111 with grade of B or above; or 326-101 and 102; admission to honors program. FW GECOMMSK WRIT

326-203 American Poets 3 Credits

Contemporary American writers of narrative, dramatic and lyric poetry.

P: 326-111 with grade of B or above; or 326-102. **GEHUMART LIT ES-B**

326-204 The Short Story 3 Credits

Style, structure, history and development of short story as a literary form.

P: 326-111 with grade of B or above; or 326-102. **F GEHUMART LIT**

326-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

326-250 Classical and Biblical Literature in Translation 3 Credits

Selections from Greek, Hebrew and Latin literature.

P: 326-111 with grade of B or above; or 326-102. **FW GEHUMART LIT**

326-286 Detective Fiction 3 Credits

Literary, historical and social implications of detective fiction from its inception to the present. Includes popular writers, literary writers, non-print media and criticism. P: 326-111 with grade of B or above; or 326-102. **GEHUMART LIT**

326-300 Children's Literature 3 Credits

Critical survey and ways of presenting literature for children from infancy to age 12. P: 326-111 with grade of B or above; or 326-102. **FW GEHUMART LIT ES-B**

326-301 Advanced Grammar 2 Credits

Traditional grammar and practical transformational-generative grammar for good professional writing and editing.

P: 326-111 with grade of B or above; or 326-102. **FW**

326-303 The Family in Literature 3 Credits

Literature about the family selected from several historical periods and cultures.

P: 326-111 with grade of B or above; or 326-102. **F GEHUMART LIT ES-C**

326-304 American Folklore 3 Credits

Analysis and interpretation of stories, songs, jokes, and material culture of families, work groups, ethnic groups, and religious groups.

P: 326-111 with grade of B or above; or 326-102. **FW**

GEHUMART LIT ES-B

326-307 Writing for the Media 3 Credits

Theory and practice of writing for the media.

P: 326-111 with grade of B or above; or 326-102. **F**

326-308 Fiction Into Film 3 Credits

Selected works of literature and their film adaptations.

P: 326-111 with grade of B or above; or 326-102. **FW GEHUMART LIT ES-C**

326-310 Journalism Practicum 1 Credit

Work on regularly published newspaper and submit articles for evaluation and publication. P: journalism minor. **R FW**

326-320 Business Writing 3 Credits

Effective techniques for writing persuasively in business communications: requests, cordial contact, sales, and education and training programs.

P: 326-111 with grade of B or above; or 326-102. **FW**

326-340 The Structure of English 3 Credits

New analytic and descriptive methods applied to modern English.

P: 326-111 with grade of B or above; or 326-102.

326-345 Creative Writing 3 Credits

All aspects of imaginative writing.

P: 326-111 with grade of B or above; or 326-102. **R FW GEHUMART CR/PRF**

326-346 Informational Writing 3 Credits

Writing for service organizations, education, the helping professions, the humanities and social sciences.

P: 326-111 with grade of B or above; or 326-102. **FW GECOMMSK WRIT**

326-347 Critical Writing 3 Credits

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

P: 326-111 with grade of B or above; or 326-102. **FW GECOMMSK WRIT**

326-348 American Literature 3 Credits

American prose and poetry from its beginnings to World War I.

P: 326-111 with grade of B or above; or 326-102. **FWS GEHUMART LIT**

326-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

326-350 Modern British Literature 3 Credits

Selected poetry, prose, and fiction produced since World War I.

P: 326-111 with grade of B or above; or 326-102. **FW GEHUMART LIT**

326-355 Recent World Literature 3 Credits

Selected readings in contemporary literature in translation.

P: 326-111 with grade of B or above; or 326-102. **GEHUMART LIT**

326-360 Modern American Literature 3 Credits

Selected poetry, prose and drama produced since World War I.

P: 326-111 with grade of B or above; or 326-102. **FWS**

GEHUMART LIT ES-B

326-372 Women Writers 3 Credits

Analyze writing of prominent American and British women novelists and poets of 19th and 20th centuries; criticism of women writers.

P: 326-111 with grade of B or above; or 326-102. **F GEHUMART LIT**

326-373 American Multicultural Literature 2 Credits

American multicultural literature, focusing on Hispanic, African, Asian and Native American writers.

P: 326-111 with grade of B or above; or 326-102. **FWS GEHUMART LIT ES-A**

326-380 Best-Sellers 3 Credits

Fiction and non-fiction best-sellers: expression of and impact on popular culture. P: 326-111 with grade of B or above; or 326-102. **FW GEHUMART LIT**

326-381 Recent American Literature 3 Credits

American poetry, fiction and drama since 1950.

P: 326-111 with grade of B or above; or 326-102. **W GEHUMART LIT ES-B**

326-385 Science Fiction 3 Credits

Critical survey of popular and classic science fiction.

P: 326-111 with grade of B or above; or 326-102. **GEHUMART LIT**

326-401 English Literature 3 Credits

Selected prose and poetry from 1798 to modern times.

P: 326-111 with grade of B or above; or 326-102. **W GEHUMART LIT**

326-402 Concepts of Literary Criticism 3 Credits

A systematic approach to literary theory, criticism and history. The science and art of form and structure as presented by great critics with emphasis on new criticism. P: 326-111 with grade of B or above; or 326-102. **FWS**

326-406 Shakespeare 3 Credits

Several representative plays and selected criticism.

P: 326-111 with grade of B or above; or 326-102. **W GEHUMART LIT**

326-407 Teaching English in the Secondary and Middle School 2 Credits

Methods for teaching English in the secondary and middle schools.

P: 326-111 with grade of B or above; or 326-102; enrollment in the English teaching minor. **FWS**

326-418 Writing on Issues 1 Credit

Advanced writing skills developed through reading, thinking and writing about major issues. P: 326-111 with grade of B or above; or 326-102. **FWS**

GECOMMSK WRIT

326-425 Copy Editing and Preparation 2 Credits

Develop skill in expanding and reducing written materials; experience in copy reading, proofreading, headlines.

P: 326-111 with grade of B or above; or 326-102. **W**

326-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

326-450 Studies in Literature (Theme, Author, Genre) 2-3 Credits

A study of a selected writer's work or of literature focusing on a significant theme of literature or of a genre not offered as a distinct course of similar duration within the departmental curriculum.

P: 326-111 with grade of B or above; or 326-102. **R FW GEHUMART LIT**

326-500 Literature for the Reading Child and Adolescent 3 Credits

Critical survey of literature for children (*age 8 to beginning to read adult literature*); adolescent literature and media presentations of literature.

P: 326-111 with grade of B or above; or 326-102. **W**

326-502 Topics in Literature 1 Credit

Intensive analysis of selected authors and literary works with emphasis on discourse analysis in group and workshop settings.

P: 326-111 with grade of B or above; or 326-102. **R FWS GEHUMART LIT**

326-515 Technical Writing 3 Credits

On-the-job writing for business and industry; reports, letters and other documents. P: 326-111 with grade of B or above; or 326-102. **FWS**

326-518 Mass Communication in American Society 3 Credits

History, social implications and future of mass media of communications.

P: 326-111 with grade of B or above; or 326-102. **F**

326-535 Writing Technical Manuals 3 Credits

Production of a technical manual—planning procedure, collecting information, analyzing audience, writing and field testing.

P: 326-111 with grade of B or above; or 326-102; 326-515 or consent of instructor. **FWS**

326-537 Technical Writing Practicum 1-3 Credits

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document.

P: 326-515 or equivalent and consent of instructor. **R FWS**

326-546 Research Reporting 3 Credits

Effective organization and presentation of individual research.

P: 326-111 with grade of B or above; or 326-102. **F**

326-601 Juvenile Fiction Seminar 1-3 Credits

Children's literature, emphasizing the picture book. Methods of selecting and reading picture books of all types with critical examination. Literary, historical and social implications of picture books.

P: 326-300 or 326-500, senior standing or consent of instructor.

French**328-101 Elementary French I 4 Credits**

Introduction to basic audiolingual skills, essentials of grammar and reading for comprehension. Supplementary materials drawn from cultural heritage of France. Minimum of one laboratory hour required. **F GECOMMSK LANG**

328-102 Elementary French II 4 Credits

Continuation of 328-101. Minimum of one laboratory hour required.

P: 328-101. **W GECOMMSK LANG**

328-121 Practical French I 2 Credits

First quarter college French. Conversational phrases and vocabulary for practical situations. Basic present tense verb patterns. Intensive pronunciation drill. **FW**

328-122 Practical French II 2 Credits

Second quarter college French. Conversational phrases and vocabulary, irregular and past tense verb patterns. **P:** 328-121 or consent of instructor. Not for students who completed 328-101. **FW GECOMMSK LANG**

328-201 Intermediate French I 4 Credits

Grammar review, vocabulary improvement, oral practice, original composition, and readings that stress French civilization and literature. Minimum of one laboratory hour required.

P: 328-102 or two years of high school French. **F GECOMMSK LANG**

328-202 Intermediate French II 4 Credits

Continuation of 328-201. Minimum of one laboratory hour required.

P: 328-201. **GECOMMSK LANG**

Spanish**329-103 Elementary Spanish I 4 Credits**

Understanding, speaking, reading and writing in Spanish. Culture of Spanish-speaking peoples, including those in the United States. Grammatical gender, present and past tense verbs, pronouns, adjectives. Supplementary work with audiotapes and computers.

P: not open to students who have completed 329-121 or 329-122. Only one Spanish course may count toward ethnic studies. **FW GECOMMSK LANG ES-B**

329-104 Elementary Spanish II 4 Credits

Second level of understanding, speaking, reading and writing in Spanish. Topics in the culture of Spanish-speaking people, including those in the United States. Compound verb tenses, the subjunctive and commands. Supplementary work with audiotapes and computers.

P: 329-103 or equivalent. Only one Spanish course may be counted toward the ethnic studies requirement. **W GECOMMSK LANG ES-B**

329-121 Practical Spanish I 2 Credits

Pronunciation, basic phrases for everyday situations, comprehension and production of short written and spoken sentences, basic grammar summary, introductory vocabulary, language in Hispanic and Hispanic-American cultural context.

P: Not open to students who have completed 329-103. Only one Spanish course may count for ethnic studies. **FWS ES-B**

329-122 Practical Spanish II 2 Credits

Second quarter college Spanish. Vocabulary, conversational patterns irregular present tense verbs, regular and some irregular preterite verbs, object pronouns. Spanish language in the context of Hispanic culture.

P: 329-121 or equivalent. Not open to students who have completed 329-103. Only one Spanish course may count for ethnic studies. **FWS GECOMMSK LANG ES-B**

329-201 Intermediate Spanish I 4 Credits

Extensive development of vocabulary including common idioms, aural comprehension, correct pronunciation and recognition of verb tenses. Readings and class discussion based on historical background and contemporary Hispanic life, including Hispanic culture in the United States.

P: 329-104 or equivalent. Only one Spanish course may count for ethnic studies. **FWS GECOMMSK LANG ES-B**

329-202 Intermediate Spanish II 4 Credits

Complete grammar review of standard Spanish, applicable to both conversational situations and business or personal correspondence. Review of essential vocabulary and phrases. Accuracy and fluency in spontaneous conversation and free composition. **P:** 329-201 or equivalent. **FWS GECOMMSK LANG**

329-227 Spanish Composition and Conversation I 2 Credits

Fifth semester college Spanish. Advanced grammar review. Introduction to composition. Writing paragraphs and short essays. Advanced conversation. Emphasis on native-like pronunciation, vocabulary and structural fluency.

P: 329-202 or equivalent. Only one Spanish course counts as ethnic studies. **F GECOMMSK LANG ES-B**

Chinese**330-121 Mandarin Chinese IA 2 Credits**

Mandarin Chinese IA. Basic Chinese vocabulary and conversational phrases. Accuracy and fluency in guided conversation. Emphasis on correct pronunciation. Written materials use Romanized alphabet. **FW**

330-122 Mandarin Chinese IB 2 Credits

Mandarin Chinese IB. (Continuation of introduction to spoken Mandarin Chinese.) Vocabulary and conversational phrases. Accuracy and fluency in guided conversation. Brief exposure to written characters.

P: 330-121 or permission of course coordinator. **FW GECOMMSK LANG**

German**331-121 Practical German IA 2 Credits**

First quarter college German. Conversational phrases and vocabulary for practical situations. Basic present tense verb patterns. Intensive pronunciation drill. **F**

331-122 Practical German IB 2 Credits

Second quarter college German. Conversational phrases and vocabulary. Present and past tense verb patterns. Nominative, accusative and dative case in short sentences. **P:** 331-121 or consent of instructor. **FW GECOMMSK LANG**

Geography**336-104 World Geography 3 Credits**

Introduction to regional and cultural geography of the world, physical and human resources of major areas of the globe. **F GES/BSCI GEOG**

336-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

336-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

336-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous. **P:** consent of instructor or department chair. **\$ FWS**

History**338-120 Early United States History 3 Credits**

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War. **FW GEHUMART HIST ES-B**

338-121 Modern United States History 3 Credits

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War. **FWS GEHUMART HIST ES-B**

338-140 Western Civilization 3 Credits

Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation.

F GEHUMART HIST

338-141 Western Civilization 3 Credits

Survey of Western civilization from Reformation to present.

W GEHUMART HIST

338-210 Modern World 3 Credits

Modern trends in terms of historical backgrounds as frame of reference for interpreting modern world. **FWS GEHUMART HIST**

338-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

338-320 History of Russia 3 Credits

Survey of Russia's historical development since 862. **F GEHUMART HIST**

338-322 African-American History 3 Credits

Social, cultural, economic and political history of African-Americans, with special focus on the United States. **GEHUMART HIST ES-A**

338-330 History of World War II 3 Credits

Causes, conduct and effects of World War II. **FW GEHUMART HIST**

338-340 English History 3 Credits

Social, political, religious, military and economic history of Great Britain from Restoration (1660) to modern times. **F**

338-345 Modern British History 3 Credits

Modern political and economic history of Great Britain from 1832 to 1980. Offered only at the Wisconsin in Scotland (WIS) center. **FW GEHUMART HIST**

338-347 Introduction to British Civilization 3 Credits

British society, culture, economy and politics in the modern period since 1850. Offered only at the Wisconsin in Scotland (WIS) center. **FW GEHUMART HIST**

338-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

338-360 Asian History 3 Credits

Survey of political, social, religious and economic history of Asia, India, China, Japan and the Philippines in modern world. **W GEHUMART HIST**

338-380 Latin American History 3 Credits

Political, social and economic history of middle and South America, pre-Colombian to present. **W GEHUMART HIST**

338-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor and department chair. **\$ FWS**

338-460 History Methods 2 Credits

Historiography and application of the historical method, including the study of teaching methods, instructional materials, and evaluation techniques.

P: enrollment in history minor or consent of instructor. **F**

Applied Mathematics**354-130 Elementary Statistics 2 Credits**

Concepts and application of probability and statistics: data analysis (*graphical displays, numerical summary measures*); probability and probability distributions; concepts of statistical inference (*estimation and hypothesis testing*). Illustrated with output from statistical computing packages. **FWS GEANRSN STATS**

354-140 Computer Concepts 2 Credits

Introduction to computing; history of computers, hardware, software and terminology; components and functions of computers; programming concepts and basic applications; running programs written by others; writing programs in basic time-sharing language. **FWS**

354-141 Computer Programming – BASIC 2 Credits

Beginning computer programming using basic: input, output, flow of control, arrays, files and subprograms. **FWS GEANRSN MATH**

354-144 Computer Science I 3 Credits

Problem-solving and algorithm development using a high-level programming language. Computer organization, programming language and programming, elements of programming style, documentation, introduction to structured programming. **GEANRSN MATH**

354-145 Computer Science II 3 Credits

Problem-solving and algorithm development using a high-level language. Structured programming concepts, debugging and testing, string processing, searching and sorting, elementary data structures, recursion and files. **P:** 354-144.

354-240 FORTRAN Programming 3 Credits

FORTRAN programming language and its use in scientific and engineering applications. **P:** 354-141. **FWS**

354-241 Assembly Language Programming 3 Credits

Basic concepts in computer systems including computer structure, machine language, assembly languages, addressing techniques, macros, file I/O, program segmentation and linkage. **P:** 354-145 or 354-240 or equivalent. **FW**

354-246 Computer Programming – COBOL 3 Credits

Introduction to computer systems and their use; development of programming practices and techniques, flowcharting, and application through business-oriented translating language. **P:** 354-141. **FW**

354-330 Probability and Statistics for Engineering and the Sciences 3 Credits

Exploratory data analysis, basic probability, probability distributions, mathematical expectation, sampling distributions, basic statistical inference (*estimation and hypothesis testing*); topics in reliability. **P:** 355-154 or 355-157. **FW**

354-331 Probability and Mathematical Statistics I 3 Credits

Sample spaces. Probability functions for discrete and continuous sample spaces. Conditional probability and independence. Random variables; probability density and cumulative distribution functions; joint, marginal, and conditional distributions. Expected values, moments, and moment-generating functions. Binomial, hypergeometric, poisson, normal, and gamma distributions. **P:** 355-154 or 355-157; completion of or concurrent enrollment in 355-158 is highly recommended. **F**

354-332 Probability and Mathematical Statistics II 3 Credits

Sampling distributions, order statistics, introduction to decision theory, estimation, hypothesis testing, nonparametric methods, regression and correlation, analysis of variance. **P:** 355-154 or 355-157 and 354-331. **W**

354-341 Data Structures 3 Credits

Review of set theory, functions and relations; basic concepts of data; lists, strings and arrays; representation of graphs and trees; storage systems and structures; symbol tables and searching techniques; sorting (ordering) techniques. **P:** 354-145 and 355-275 **FW**

354-342 Survey of Programming Languages 3 Credits

Programming languages and language design. Comparative study of three modern high level languages and their application strengths for systems programming, embedded computer systems and artificial intelligence. **P:** 354-145 and 354-241 and 354-341. **FW**

354-343 Mathematical Foundations of Computer Graphics 3 Credits

Fundamental hardware, software, mathematics, data structures and algorithms for computer graphics. **P:** 354-241, 354-341, 355-158, 355-275. **FWS**

354-441 Computer Organization 3 Credits

Hierarchical organization of a computer system: CPU, memory, I/O modules. Detailed analysis of the CPU and control unit implementation. **P:** 354-241 and 354-341 or concurrent enrollment in 354-341. **F**

354-442 Systems Programming 3 Credits

Design, organization and case studies of major systems software: assemblers, loaders, linkers, macro processors, compilers, and operating systems. Relationship between machine architecture and system software. **P:** 354-441. **W**

354-443 Database Systems Manipulation and Design 3 Credits

Conceptual and logical organization of data, data models, data manipulation and data definition languages, and design of databases. Distributed database systems; object-oriented database systems; and expert database systems; integrity, constraints, concurrency, security, and query optimization. **P:** 354-342. **FW**

354-446 Numerical Analysis I 3 Credits

Theory and applications of numerical methods for linear algebra, non-linear equations and polynomial interpolation. **P:** 355-158, 355-275, 354-145 or 354-240 or equivalent.

354-447 Numerical Analysis II 3 Credits

Theory and applications of numerical methods for approximation, numerical integration and differentiation, differential equations, and fourier analysis. **P:** 354-446, 355-255.

354-448 Software Engineering 3 Credits

Software development lifecycle, programming languages and environments, program testing, documentation, software management and organization. Class software development project. **P:** 354-341, 354-145 or consent of instructor. **FWS**

354-475 Applied Mathematics Internship 2-8 Credits

Off-campus work and study in approved position to gain experience in using computer and/or statistical techniques in the analysis and solution of real-world problems. Interns receive salaried appointments with cooperating companies for summer or summer plus one semester. **P:** junior standing. **R FWS**

354-490 Mathematical Models I 2 Credits

Supervised experiences in construction of mathematical models for the solution of problems in area of student's needs and interests; resource materials. **P:** senior standing in applied mathematics. **F**

354-491 Mathematical Models II 2 Credits

Continuation of 354-490. **P:** 354-490. **W**

354-530 Statistical Methods 3 Credits

Histograms, mean and standard deviation, combinatorics, probability; binomial, hypergeometric, normal, chi-square, T and F distributions and their uses; statistical inference; contingency tables, linear models, analysis of variance with appropriate applications. **P:** 355-120 or equivalent and three years of high school math. **FWS GEANRSN STATS**

354-531 Design of Experiments I 2 Credits

Linear and curvilinear regression, single-factor designs, confidence ellipsoids for means, blocking, Latin and other squares, factorial designs.

P: 354-332 or consent of instructor. F

354-532 Design of Experiments II 2 Credits

Fixed-effect, random-effect and mixed models, nested and nested-factorial designs, split-plot designs, confounding in blocks, analysis of covariance, response surfaces, sequential analysis.

P: 354-531. W

354-545 Image Processing 3 Credits

Theory and applications of digital image processing. Mathematical foundations and algorithms for enhancement, restoration, compression, segmentation and reconstruction from projections.

P: 355-255, 355-275, 354-341, 354-332 or consent of instructor. W

354-546 Simulation Modeling and Analysis 3 Credits

Simulation as a problem-solving technique; models, analysis and languages for simulation; data collection; random variate generation; verification and validation; output analysis; optimization of systems. P: 354-341 and 354-332. FW

354-590 Topics 1-3 Credits

Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. RS

354-590A Topics 1-3 Credits

Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. RS

Mathematics**355-010 Fundamentals of Algebra 2 Credits**

Review of fundamental principles of elementary algebra. Credit earned for 355-010 will not count toward graduation. FW

355-110 Intermediate Algebra 4 Credits

Basic algebraic skills: factoring, exponents, rational expressions, linear equations and inequalities, systems of equations, quadratic equations, and an introduction to functions. P: one year of high school algebra and demonstrated proficiency on math placement test. FW

355-118 Concepts of Mathematics 4 Credits

Elementary concepts in mathematical language and reasoning, sets, number systems and theory, algebraic equations, statistics and probability, geometry, computers, historical survey.

P: minimum of one year high school algebra. FW GEANRSN MATH

355-119 Business Mathematics 4 Credits

Review of arithmetic and basic algebra; simple and compound interest, inventory control and purchase planning; applications to retailing, marketing, accounting, finance, consumerism and insurance. FW

355-120 Introductory College Mathematics I 4 Credits

Review of basic algebra, solving equations and inequalities, applications of equations and inequalities, functions and their graphs, polynomial equations, and systems of equations.

P: demonstrated proficiency on math placement test. FWS GEANRSN MATH

355-121 Introductory College Mathematics II 4 Credits

Continuation of 355-120. study of functions to include rational, exponential, logarithmic, and trigonometric functions and two dimensional analytic geometry. P: 355-120 or demonstrated proficiency on math placement test. FW

GEANRSN MATH

355-123 Finite Mathematics With Applications 4 Credits

Real number system, systems of linear equations and inequalities, sets, functions, vectors, matrices, probability, linear programming, theory of games, Markov chains. P: 355-120 or consent of department chair. GEANRSN MATH

355-152 Calculus for Management and the Social Sciences 4 Credits

Basic concepts of calculus with applications in the managerial and social sciences. P: 355-123. This course is not equivalent to 355-153 Calculus I nor is it a suitable prerequisite for 355-154 Calculus II. FWS GEANRSN MATH

355-153 Calculus I 4 Credits

Functions, limits, continuity, bounds, sets, the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions. Not open to those with credit in 355-154, 355-156, 355-157 or 355-158.

P: 355-121 or equivalent. FWS GEANRSN MATH

355-154 Calculus II 4 Credits

Continuation of 355-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors. P: 355-153. FW GEANRSN MATH

355-156 Calculus and Analytic Geometry I 5 Credits

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral. Not open to those with credit in 355-153, 355-154 or 355-157. P: demonstrated proficiency. F GEANRSN MATH

355-157 Calculus and Analytic Geometry II 5 Credits

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration. P: 355-156. W GEANRSN MATH

355-158 Calculus III 3 Credits

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration. P: 355-154 or 355-157. FW

355-249 Applied Mathematics:**Co-op Education Internship 1-8 Credits**

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

355-250 Differential Equations With Linear Algebra 3 Credits

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors.

P: 355-154 or 355-157; credit cannot be given for both 355-250 and 355-255. **FW**

355-255 Differential Equations 3 Credits

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations.

P: 355-154 or 355-157 and 354-141 or concurrent registration. **FW**

355-262 Modern Geometry 3 Credits

Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (*linear, circular*), orthogonal systems of circles, elliptic and hyperbolic geometry. P: 355-153 or 355-156.

355-275 Linear Algebra 3 Credits

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

P: 355-153 or 355-156. **FW**

355-349 Applied Mathematics:**Co-op Education Internship 1-8 Credits**

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

355-350 Vector Analysis 3 Credits

Basic theory of vectors. Vector differential calculus and vector integral calculus of two and three dimensions with applications. P: 355-158. **FWS**

355-370 Modern Algebra I 3 Credits

Set theory, mappings, equivalence relations and classes, mathematical induction, Peano's postulates, isomorphisms; development of natural numbers, integers, rational, and real numbers; introduction to integral domains and rings.

P: 355-154 or 355-157. **F**

355-371 Modern Algebra II 3 Credits

Continuation of 355-370; rings, integral domains, fields, polynomials, groups, vector spaces; introduction to algebra of matrices. P: 355-370. **W**

355-449 Applied Mathematics:**Co-op Education Internship 1-8 Credits**

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

355-450 Real Analysis I 3 Credits

Rigorous development of advanced topics in analysis; functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions. P: 355-154 or 355-157. **F**

355-451 Real Analysis II 3 Credits

Continuation of 355-450; differentiation, integration, infinite series.

P: 355-450. **W**

355-460 Complex Variables With Applications 3 Credits

Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues. P: 355-255.

Music**360-101 Class Piano I 1 Credit**

Group instruction in piano technique and repertoire at beginner level. One one-hour lesson per week; additional practice time required.

FW GEHUMART CR/PRF

360-102 Class Voice I 1 Credit

Group instruction in vocal technique. Solo performance in class.

R FWS GEHUMART CR/PRF

360-111 Advanced Piano I 1 Credit

Private instruction in piano technique and repertoire. One half-hour lesson per week; additional practice time required; optional recital. **FW**

360-112 Advanced Voice I 1 Credit

Private instruction in vocal technique and repertoire. One half-hour lesson per week; additional practice time required; optional recital. **FW**

360-130 Music Appreciation 2 Credits

Music materials as they pertain to perceptive listening, music and musicians from medieval times to present; students gain significant awareness of great music. **FWS GEHUMART ART/MU**

360-132 Music in Our World 3 Credits

Music materials as they pertain to perceptive listening, music and musicians from the beginnings of music to the present. Great music from many cultures.

FWS GEHUMART ART/MU ES-C

360-201 Class Piano II 1 Credit

Continuation of 360-101 at intermediate level. One one-hour lesson per week; additional practice time required. **FW GEHUMART CR/PRF**

360-206 Music for the Young Child 2 Credits

Music elements and experiences, methods and materials for guiding the musical growth of children from birth through third grade.

360-101 or equivalent or knowledge of music fundamentals. **FW**

360-211 Advanced Piano II 1 Credit

Continuation of 360-111. **FW**

360-212 Advanced Voice II 1 Credit

Continuation of 360-112. **FW**

360-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entailing recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

360-264 Jazz Band 1 Credit

Jazz styles and improvisation from the dance band era to the present. Study and performance of contemporary "big band" jazz. Membership is open to all qualified students. Audition may be necessary. **R FW GEHUMART CR/PRF**

360-265 College Choir 1 Credit

Advanced choral techniques, reading and analysis of choral music of all types and periods. Concert and radio appearances. **R FW GEHUMART CR/PRF**

360-266 Stout Concert Band 1 Credit

Fundamentals of musical expression, tone production and quality, and special problems of technique. Membership by audition only. **R FW GEHUMART CR/PRF**

360-267 Stout Symphonic Singers 1 Credit

Advanced choral techniques, reading and analysis of choral music of all types and periods. Membership by audition only. **R FW GEHUMART CR/PRF**

360-268 Solo and Ensemble 1 Credit

Coaching of advanced vocal and instrumental performers for public performance. **R FW**

360-270 Vocal Jazz Ensemble 1 Credit

Performance of vocal jazz in a select choral ensemble. Membership by audition only. **R FW GEHUMART CR/PRF**

360-311 Advanced Piano III 1 Credit

Continuation of 360-211. **R FW**

360-312 Advanced Voice III 1 Credit

Continuation of 360-212. **R FW**

360-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

360-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous

P: consent of instructor or department chair. **\$ FWS**

Philosophy**365-201 Introduction to Philosophy 3 Credits**

Introduction to the principal problem areas and history of philosophy, as well as to the nature of philosophical investigation. **FW GEHUMART PHIL**

365-250 Critical Thinking 3 Credits

Formulation, clarification and critical evaluation of claims: justification through non-formal argumentational strategies. **FWS**

365-301 Introduction to Logical Thinking 3 Credits

Problem-solving strategies based on induction and on categorical and propositional deduction. **FW GEANRSN LOGIC**

365-305 Philosophy of Religion 3 Credits

Principal philosophical problems in the various dimensions of religious experience and belief. **F GEHUMART PHIL**

365-315 Eastern Philosophy 3 Credits

Philosophies of India, China and Japan: Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism. **W GEHUMART PHIL**

365-335 General Ethics 3 Credits

Ethical valuing process: principal ethical theories and their application to common human problems. **FWS GEHUMART PHIL**

365-375 Personal and Professional Ethics 3 Credits

Ethical valuing process and major ethical standards applied to personal and professional life. **FW**

Physics**372-151 Astronomy 3 Credits**

The solar system, stars, galaxies and the universe. Physical processes and observational methods. **P:** credit cannot be given for both 372-151 and 372-351. **FW GENSCI PHYSC LAB**

372-211 Introduction to Physics 3 Credits

Introduction to principles of physics, including mechanics, fluids, heat and thermodynamics, light and sound, electricity and magnetism; their applications to specific technologies. **F GENSCI PHYSC**

372-212 Introduction to Physics: Lab 1 Credit

Measurement, analysis and presentation of laboratory data on basic physics concepts, including mechanics, fluids, heat, electricity, light and sound.

P: concurrent registration in 372-211. **\$ FWS GENSCI PHYSC LAB**

372-222 Heat and Thermodynamics 2 Credits

Concepts of temperature and heat, temperature-dependent properties and processes, heat transfer; laws relating heat and other forms of energy.

P: 372-221. **FWS**

372-231 General Physics I 4 Credits

Algebra- and trigonometry-based general physics course: mechanics and sound with laboratory. **P:** 355-121 and a math pre-test. **\$ FWS GENSCI PHYSC LAB**

372-232 General Physics II 4 Credits

Algebra- and trigonometry-based general physics course: electricity and light with laboratory. **P:** 372-231. **\$ FWS GENSCI PHYSC LAB**

372-241 College Physics I 5 Credits

Calculus-based general physics course: mechanics and thermodynamics with laboratory. **P:** 355-153 or 355-156 ; and a math pre-test. **\$ FWS**

GENSCI PHYSC LAB

372-242 College Physics II 5 Credits

Calculus-based general physics course: electricity, sound, light and selected topics in modern physics with laboratory. **P:** 372-241. **\$ FWS**

GENSCI PHYSC LAB

372-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

372-251 Topics in Astronomy 1 Credit

Qualitative analysis emphasizing physical principles of selected topics in astronomy. Significance of modern methods of obtaining astronomical information. **F GENSCI PHYSC**

372-252 Laser Light and Waves 1 Credit

Wave properties of laser light; interference and diffraction as general properties of waves; importance of interference and diffraction effects in laser light; holography and other applications of laser light. **W GENSCI PHYSC**

372-255 Meteorology 2 Credits

Physical processes that determine properties of the earth's atmosphere: precipitation, atmospheric circulation, weather, climate and human influence on the atmosphere in the framework of physics. **FW GENSCI PHYSC**

372-257 Introduction to Geology and Soil Mechanics 3 Credits

Physical processes involved in rock formation, mountain building, erosional landscapes, plate tectonics, earthquakes and geologic dating. Elementary soil mechanics. **FWS**

372-281 University Physics I 5 Credits

Calculus-based general physics course: mechanics and thermodynamics with laboratory. **P:** 355-154 or 355-157 or concurrent registration and a math pre-test. **\$ W GENSCI PHYSC LAB**

372-282 University Physics II 5 Credits

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory.

P: 372-281. **\$ F GENSCI PHYSC LAB**

372-321 Statics and Strength of Materials 4 Credits

Force and moment equilibrium including friction, trusses, frames and machines. Simple and compound stress and strain including beams and joints. No credit for students taking 372-325 or 372-531. **P:** 372-241 or 372-281. **FWS**

372-325 Strength of Materials 3 Credits

Fundamental theory of strength of materials. Analysis of tension, compression, shear, biaxial tension and compression, torsion, stresses and deflection of beams. **P:** 372-231 and 355-153 or 355-156; or 372-241 or 372-281. **FWS**

372-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

372-351 Astrophysics 3 Credits

Quantitative and qualitative study of the solar system, stars, galaxies and the universe. Physical processes and observational methods and analysis.

P: 372-282 or 372-242; credit cannot be given for both 372-151 and 372-351. **FWS**

372-380 Electromagnetic Fields 3 Credits

Development and application of the theory of electromagnetic fields; analysis of the electromagnetic properties of materials and Maxwell's equations.

P: 372-282 or 372-242, 355-255 or concurrent registration. **F**

372-449 Cooperative Education Program 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

372-527 Solid State Physics 3 Credits

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, semi-conductors, and dielectric and magnetic properties of solids. **P:** 372-282 or 372-242 and 355-157 or 355-154. **W**

372-529 Atomic and Nuclear Physics 3 Credits

Elements of atomic and nuclear physics.

P: 372-282; or 372-242 and 355-154 or 355-157. **F**

372-531 Statics 3 Credits

Essential elements of statics: simple force system, theory and application of non-concurrent forces, couples, friction, non-coplanar forces, trusses and other structures. **P:** 372-241 or 372-281. **F**

372-533 Dynamics 3 Credits

Essential elements of dynamics: rectilinear, angular and harmonic motions, forces producing motion, work, energy, acceleration, impulse and momentum.

P: 372-531. **W**

372-535 Optics 3 Credits

Optics with emphasis on the wave nature of light: interference diffraction, polarization and coherence; their applications in holography.

P: 372-282; or 372-242 and 355-154 or 355-157. **W**

Political Science

375-210 American Government 3 Credits

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments. **FWS GES/BSCI POLS ES-B**

375-220 State and Local Government 3 Credits

State and local governments within U.S. federal system. Recommended: 375-210.

375-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

375-270 Introduction to Comparative Government 3 Credits

Analysis and comparison of basic political principles, institutions and problems of major western, communist and underdeveloped nations; consideration of alternative approaches to political order and change.

375-310 Political Parties and Elections 3 Credits

Analysis of modern political parties. Nominating methods, campaigns, elections. Practical politics in legislative bodies, machines and bosses. **P:** 375-210.

375-340 International Relations 3 Credits

The global political system; influence of technology, ideology, ethnicity, national interests, power, morality, multinational business, international organizations, and economic, demographic and ecological patterns; approaches to managing war, violence, economic relations, global pollution and other international problems. **GES/BSCI POLS**

375-349 Cooperative Education Program 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

375-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

375-510 Public Policy Analysis 3 Credits

Analysis of origins of public policy and policy-making process. Specific case studies of public policy. **P:** 375-210 or consent of instructor. **W**

375-550 Politics and Technology 3 Credits

Contemporary and future technological innovations; relationship between political institutions and promotion, regulation and impact of industry and technology in the United States and other selected countries.

P: junior standing or senior standing. **F**

Sociology

387-110 Introductory Sociology 3 Credits

Social interaction in human groups; relationships between individual and group; social inequality; basic social institutions, social change and current social trends; the socio-cultural diversity of groups; the infrastructure and interrelationships of social organizations; and alternative theoretical perspectives for explaining these social phenomenon. **FWS GES/BSCI SOC ES-C**

387-205 Introduction to Social Work 3 Credits

Social work as a profession; history and philosophy of social services; information for teachers, counselors and those interested in the field.

P: 387-110. **FW**

387-215 Sociology of the Family 3 Credits

The family as an institution; history, variations in other cultures, relationships to other institutions, interactions of members at various stages of life cycle.

P: 387-110. **FW**

387-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

387-250 Social Psychology 3 Credits

Theory and application of social interaction; emphasis on communication.

P: 387-110. **W**

387-275 Sociology of Gender Roles 3 Credits

Sociological analysis of social roles played by the sexes. **P:** 387-110. **W ES-B**

387-300 Sociology of Technology 3 Credits

Sociological influences on the structure, function, dissemination, consumption and consequences of science and technology; analysis of science and technology myths, misuses and abuses; perspectives on future trends in technology.

P: 387-110. **FWS GETECH**

387-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

387-375 Sociology of Minority Groups 3 Credits

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States. **P:** 387-110. **W ES-A**

387-420 Child and Family Agencies 3 Credits

Social and legal status of children in American society; various social services designed to optimize child's growth and development; nature and needs of families; family service agencies. **FW**

387-430 Social Casework Methods 3 Credits

Dynamics of social casework: mobilizing individual capacities and community resources to promote adjustment between client and environment, social change. **P:** 387-205.

387-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

387-515 Criminology 3 Credits

Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system. **P:** 387-110. **W**

387-525 Sociology of Leisure 3 Credits

Institutional approach to effects of leisure on social structure; values reflected in leisure; problems with increase in leisure resources. **P:** 387-110. **W**

387-530 Sociology of the Community 3 Credits

Community structure, chiefly in the United States; variability and current trends, research techniques, community development. **P:** 387-110. **FW**

387-540 Sociology of Work 3 Credits

Human behavior in various types of employment and occupations; trends in U.S. occupational structure. **P:** 387-110. **FW ES-C**

387-550 Sociology of Technology 3 Credits

Relationships between technology and social structure with emphasis on future projections. **P:** 387-110. **FWS**

387-560 Sociology of Juvenile Delinquency 3 Credits

Definitions of and trends in deviant behavior among youth; research findings; efforts in prevention, control and treatment. **P:** 387-110. **FW**

Speech**391-100 Fundamentals of Speech 2 Credits**

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

FWS GECOMMSK SPKG

391-101 Forensics 1-2 Credits

Training in speech through instruction in and application of the principles used in intercollegiate forensics program: oral interpretation and original and limited-preparation events. **R FW**

391-102 Forensics 1-2 Credits

Training in speech through instruction in an application of the principles used in intercollegiate forensics program: oral interpretation and original and limited-preparation events. **R FW**

391-103 Forensics 1-2 Credits

Training in speech through instruction in an application of the principles used in intercollegiate forensics program: oral interpretation and original and limited-preparation events. **R FW**

391-104 Forensics 1-2 Credits

Training in speech through instruction in and application of the principles used in intercollegiate forensics program; specific emphasis on forensics administration. **R FW**

391-131 Theater Practicum .5-1 Credit

Participation in acting, stagecraft, lights, sound, makeup, costumes, properties and business in university theater productions. **R FW GEHUMART CR/PRF**

391-200 Persuasive Speaking 2 Credits

Advanced techniques of speaking; develop skill in audience analysis, speech composition and delivery of various types of speeches; recognize techniques used daily toward individuals and groups. **P:** 391-100. **FWS GECOMMSK SPKG**

391-202 Oral Interpretation 2 Credits

Individual and group activities to develop skill in the oral performance of literature; projects in analysis and delivery of literature. Consideration of individual problems. **P:** 391-100. **W GEHUMART CR/PRF**

391-204 Techniques of Group Leadership 2 Credits

Techniques for presiding at meetings through use of parliamentary law; persuasion as means of motivating and guiding behavior of others.

P: 391-100. **FW**

391-206 Discussion 2 Credits

Principles and techniques of discussion; leading and participating in symposium, panel, roundtable and other discussion forms.

P: 391-100. **FW GECOMMSK SPKG**

391-208 Theory of Communication 3 Credits

How people communicate with each other; interpersonal, social, technical and business communication, monographs of various communication theorists.

P: 391-100. **FW GECOMMSK SPKG**

391-210 Interpersonal Speech Communication 1-2 Credits

Basic aspects of non-structured, informal speech communication; expression of feelings and intentions and processing of relationships.

P: 391-100. **FW GECOMMSK SPKG**

391-232 Introduction to the Theater 3 Credits

Development of theater arts from ancient times to present; play styles, production methods and audience appreciation; representative plays.

FW GEHUMART CR/PRF

391-236 Listening 2 Credits

Theoretical analysis and practical application of listening concepts. Emphasis on assessment of individual listening skills and methods of improving personal listening techniques used in occupational and personal relationships.

P: 391-100. **GECOMMSK SPKG**

391-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

391-310 Introduction to Speech Correction 2 Credits

Nature and causes of and therapeutic methods for remediating speech and language disorders. P: 391-100. W

391-334 Contemporary Theater 2 Credits

Analysis of selected plays; structure, dramatic content and production methods.

P: 391-100. W GEHUMART CR/PRF

391-336 Stagecraft and Scene Design 2 Credits

Technical problems in producing plays; set design; constructing, painting and handling scenery; stage lighting, makeup, costuming, sound and visual effects, organization of production staff. P: 391-232. W GEHUMART CR/PRF

391-338 Play Production 2 Credits

Directing and acting techniques in play production; selecting, rehearsing and producing scenes for class. P: 391-100. F GEHUMART CR/PRF

391-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

391-412 Teaching Speech in Middle and Secondary Schools 2 Credits

Preparation for the teaching of speech communication courses and the direction of related co-curricular activities in middle and secondary schools.

P: 391-100 and speech teaching minor, or permission of speech minor adviser. FWS

391-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. \$ FWS

391-508 Speech Skills for Business and Industry 2 Credits

Technical speaking; projects in application of speech skills and activities in business and industry. P: 391-100 and junior standing. FWS

391-514 Interviewing 1 Credit

Principles and techniques for interviewee in employment interviews.

P: 391-100. FW

391-554 Television Programming and Performance 3 Credits

Planning, writing and performing instructional, public service, special feature or dramatic television programs.

P: 391-100 and junior standing or consent of instructor. FW GEHUMART CR/PRF

School Counseling**413-501 Introduction to Guidance 2 Credits**

Policies and practices of organized guidance programs in educational settings; historical, philosophical and cultural bases for guidance services; guidance techniques for teachers; cooperative efforts of teachers, parents and counselors.

FWS

413-600A Workshop: Counseling/Psychological Services 1-3 Credits

Current specialized topics studied through experiential activities. Continuation of course 413-600. R FS

413-600B Workshop: Counseling/Psychological Services 1-3 Credits

Current specialized topics studied through experiential activities. Continuation of course 413-600. R FS

413-647 Behavior Problems of Children 2 Credits

Psychological, social and environmental factors contributing to developing child's behavior; cause and treatment of behavioral disorders in children 3 through 12; methods of observing, diagnosing, documenting and interpreting; underlying behavioral dynamics of problem children.

P: consent of instructor. WS

Education**421-280 Reading Improvement 1-2 Credits**

Skill instruction in reading study skills. application of skills to student's textbooks and materials.

421-303 Educational Psychology 3 Credits

Introduction to the psychological aspects of the educative processes. Emphasis on application of basic psychological principles to teaching. Focus on learner, learning process, and the teacher as an agent for change.

P: 479-110. FWS

421-305 Teaching Practicum 2 Credits

Practical experience in developing the prospective teacher's ability in specific well defined teaching skills.

P: 421-507. FWS

421-310 Field Experience - Tutoring 1 Credit

Supervised one-on-one or small group teaching experience in a school or other educational setting in response to the special needs of students with learning difficulties. Emphasis is on precision teaching, individualized instruction and alternative strategies. P: consent of instructor. FWS

421-312 Introduction to Curriculum, Methods and Assessment 2 Credits

Principles and practices of curriculum development, instructional methods, and measures of assessment of learning, including issues of and approaches to curriculum and curriculum development; methods of effective teaching; purposes, methods, and measures of assessment. FW

421-326 Foundations of Education 2 Credits

Historical background, status, trends, and organization of U.S. education; understandings vital to students before they begin student teaching. Includes professional roles, expectations, rewards and frustrations, resources, control, finance and philosophy. FWS

421-408 Introduction to Teaching Strategies 4 Credits

Introduction to general curriculum development, instructional methodology and evaluation.

421-495 Personal Learning Experience 2 Credits

An experimental program for juniors and seniors, by permission of program directors. Each student selects an area of life which involves ethical decision and investigates that decision-making process. The group enrolled for this experience meets with the directors twice a week for direction, discussion, and criticism. self-evaluation paper at the close of the course, which is submitted to the critique of the directors and other members of the learning experience.

421-507 Applied Human Relations 2 Credits

An experiential course focusing on major themes affecting human relations.

FWS ES-C

421-536 Multiculturalism: Issues and Perspectives 2 Credits

Intensive study of diversity in U.S. schools. Examination of the educational needs of students from various ethnic, cultural, religious, language and social class groups. Discussion of issues related to racism, sexism and oppression.

P: qualifies as ethnic studies category A only if 421-576 is also taken. **FWS ES-A**

421-574 Clinical Field Experience – Mentoring 1-2 Credits

Supervised one-on-one or small group teaching experience in a school or other educational setting in response to the special needs of high ability students. Emphasis is on critical thinking, problem-solving skills and creative expression.

P: 431-595 or consent of instructor. **FWS**

421-576 Field Experience – Cross-Cultural Experience 1 Credit

Supervised one-on-one or small group experience in a school or other setting in response to a special academic or social need with representatives of one or more of the following designated ethnic minority groups--African-Americans, Asian-Americans, Pacific Islander-Americans, American Indians and Hispanic-Americans, and various socio-economic groups, specifically the low-income. **P:** 421-536 or consent of instructor. Qualifies as ethnic studies category A only if 421-536 is also taken. **FWS ES-A**

421-580 Reading and Language Arts in Elementary Education 3 Credits

Current philosophies in reading and language arts education, the centrality of language arts to the elementary curriculum and methodologies for the elementary classroom. **FWS**

421-581 Preclinical: Elementary Education Language Arts, Reading 1 Credit

Supervised teaching experience in developing the prospective teacher's ability in elementary education language arts and reading skills.

P: 421-580 or concurrent registration. **FWS**

421-582 Secondary Reading and Language Development 2 Credits

Effective utilization of reading and language development methodologies in secondary content area classrooms. **P:** 421-303. **FWS**

421-600 Workshop – Special Topics in Education 1-3 Credits

Current specialized topics studied through experimental activities.

P: consent of instructor. **R**

421-600A Workshop – Special Topics in Education 1-3 Credits

Current specialized topics studied through experimental activities.

P: consent of instructor. **R**

421-600B Workshop – Special Topics in Education 1-3 Credits

Current specialized topics studied through experimental activities.

P: consent of instructor. **R**

421-630 Ojibwe Lifeways 4 Credits

In-depth, interactive study of Ojibwe culture within a Wisconsin reservation community. **\$ S ES-A**

421-683 Seminar in Reading Methods for Secondary Schools 1 Credit

Selection, research and presentation for discussion of topics related to reading in secondary schools. **FWS**

421-690 Learning Style Theory and Application 2 Credits

An introduction to the educational sciences, including cognitive mapping. Emphasis is placed on the practical application of the educational sciences in an educational setting. **P:** junior standing.

Special Education**431-480 Student Teaching With Handicapped Youth 4-8 Credits**

Directed teaching and community experiences in selected off-campus schools with normal and handicapped adolescents.

P: 431-662, 2.5 grade point average in major courses, "C" or better in English, and speech and health certification. **FW**

431-481 Student Teaching Youth With Cognitive Disabilities 16 Credits

Directed teaching and community experiences in selected off-campus schools with cognitive disabilities for a full school semester. **P:** admission to advanced standing, including 431-518, 431-526, and 431-662. **FW**

431-500 Introduction to Individuals With Cognitive Disabilities 3 Credits

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons. **F**

431-501 Learning Disabilities 3 Credits

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults. **W**

431-516 Psychology of the Exceptional Child 2-3 Credits

History and treatment of exceptional individuals; characteristics and development of children who deviate from the norm: learning disabled, gifted, mentally retarded, socially and emotionally disturbed, abused, speech and language impaired, and those with visual, hearing, orthopedic and chronic health problems. **FW**

431-518 Introduction to Teaching/Assessment in Special Education 2 Credits

Provides one-on-one, supervised experience in teaching youth with exceptional education need (EEN). Provides the initial opportunity for the student to teach a young person with EEN in a supervised setting for 50 hours. **FWS**

431-522 Curriculum and Instruction: Functional Living Skills 2 Credits

Curriculum and instructional techniques for developing basic functional living skills for persons with cognitive disabilities, borderline and severe.

P: 431-518, 431-500 and 431-630 or consent of instructor. **W**

431-523 Curriculum and Instruction: Academic Skills 3 Credits

Curriculum and instructional techniques for developing academic skills for persons with cognitive disabilities (*borderline and severe*).

P: 431-518, 431-630 and 431-500 or consent of instructor. **FW**

431-524 Curriculum and Instruction: Career and Transition Education 3 Credits

Curriculum and instruction for persons with cognitive disabilities, borderline and severe, in prevocational career, vocational education, and transition stressing interdisciplinary cooperation.

P: 431-518, 431-500 and 431-630 or consent of instructor. **F**

431-526 Practicum in Special Education 2 Credits

Off-campus work and study in educational settings with youth with cognitive disabilities borderline (CDB) and/or cognitive disabilities severe (CDS) for a minimum of 50 hours in a supervised setting, utilizing the teaching techniques and methods previously learned.

P: 431-518 and prerequisite or concurrent enrollment in 431-524. **F**

431-528 Assessment for Individual Education/Transition Plans 3 Credits

Diagnosing behavior and learning problems of students with exceptional education needs. Preparing individual educational and transitional plans based on comprehensive assessments. **P:** 459-610 or concurrent enrollment. **FWES-C**

431-597 Field Experience in Gifted Education 2-4 Credits

Off-campus experience in gifted student programming in schools, parent organizations, private organizations, extracurricular organizations, or state and federal agencies. Students may enroll for 2 or 4 semester hours of credits for a final total of 4. **P:** 431-595. **R**

431-600 Workshop: Topics in Special Education 1-3 Credits

Current specialized topics studied through experiential activities.

P: consent of instructor. **S**

431-630 Mainstreaming Students With Exceptional Educational Needs 3 Credits

Behavior and learning characteristics of persons who are cognitively disabled, learning disabled, socially and emotionally disturbed, hearing and sight impaired, orthopedically and chronically health impaired, speech and language impaired, gifted and talented or who suffer from traumatic brain injury, autism, attention deficit disorder, attention deficit hyperactivity disorder, services mandated by federal and state law, M-team process, and individualized educational plan; transitional services; instruction of students with exceptional educational needs within regular classes. **FWS**

431-662 Classroom Management Techniques 3 Credits

Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance learning. **W**

Counseling

439-405 Peer Counseling 3 Credits

Laboratory experience will train class participants to be peer counselors and trainees for peer groups that counsel among themselves using skills in listening, giving support and providing alternatives through verbal and non-verbal interaction. **FW**

439-600 Workshop in Counseling 1-3 credits

Current specialized topics studied through experiential activities. Continuation of course 413-600. **R FS**

439-675 Counseling Theory 2 Credits

Theoretical approaches to counseling: psychoanalytic adaptations, behaviorism, trait-factor, client-centered and others; nature of man, underlying personality theory, goals of counseling, role of counselor and illustrative practical applications in each approach; develop beginning personal theory of counseling. **P:** 413-501. **FWS**

439-694 Counseling Older Persons 2-3 Credits

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences. **W**

Vocational Rehabilitation

459-101 Introduction to Rehabilitation 3 Credits

An introduction to serving people with disabilities. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services. **FW**

459-102 Community Resources 3 Credits

Role of community resources in rehabilitation. **FW**

459-198 Field Experience in Rehabilitation 1-2 Credits

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. **P:** 459-101. **R**

459-205 Rehabilitation Practicum 3-4 Credits

Community-based learning in application of rehabilitation concepts and principles. Includes weekly seminar for critique and skill development.

P: 459-101 and 459-102, both with a grade of "C" or better. **FW**

459-230 Psychosocial Aspects of Disability 3 Credits

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience. **P:** 459-101 and/or concurrent with 308-220. **FWES-C**

459-298 Field Experience in Rehabilitation 1-2 Credits

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. **P:** 459-101. **R**

459-310 Vocational Evaluation 3 Credits

Development of an individualized approach to conducting vocational evaluations with individuals with disabilities. Skill development in planning, selecting, and using assessment to OLS/techniques, and communicating findings.

P: 459-101, 459-102. **FW**

459-325 Rehabilitation and Sensory Disability 3 Credits

Introduction to persons with hearing and visual impairments or both. Methods and techniques used in sensory disability rehabilitation are discussed. **W**

459-398 Field Experience in Rehabilitation 1-2 Credits

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. P: 459-101. **R**

459-401 Principles and Techniques of Caseload Management 2 Credits

Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities. P: 459-230, 308-220. **FW**

459-410 Job Placement Processes 3 Credits

Placement theory and methods used to assist people with disabilities to obtain appropriate employment. P: 459-230. **FW**

459-449 Rehabilitation Cooperative Education Experience 1-6 Credits

Work and study in an approved rehabilitation related position to gain experience in provisions of human services. Selection by application and interview.

P: field experience and approval of instructor. **\$ R**

459-480 Advanced Rehabilitation Practicum 2-6 Credits

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration. P: 459-398 or 459-498 with a grade of "C" or better. **WS**

459-498 Field Experience in Rehabilitation 1-2 Credits

Off-campus work and study in an approved position to further develop skills and to increase understanding of the challenges and potentials of various rehabilitation careers.

P: 459-205 and 459-230, both with a grade of "C" or better. **R**

459-500 Special Topics in Rehabilitation 1-2 Credits

Special topics not available through regular courses.

P: approval of instructor. **R FWS**

459-500A Applied Biofeedback in Rehabilitation 1 Credit S**459-500B Juvenile Use/Abuse of Alcohol and Other Drugs 2 Credits S****459-500G Grantsmanship in the Helping Professions 1 Credit S****459-500M Psychophysiological Approaches to Chronic Muscle Problems in Athletics 1 Credit**

To enable individuals to develop skills in several psychological and somatic treatments for problems of chronic muscle tension in athletic settings. **\$ FS**

459-500N Community-Based Rehabilitation Services 1 Credit

An examination of national priorities for community-based services designed to enhance competitive employment options for severely disabled persons. **FWS**

459-505 Sign Language I 3 Credits

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication. **F GECOMMSK LANG**

459-506 Sign Language II 3 Credits

Intermediate course in manual communication with persons who are deaf. American sign language and increasing sign vocabulary and communication speed. P: 459-505. **W GECOMMSK LANG**

459-509 Introduction to Biofeedback 3 Credits

Theory and applications of biofeedback in psychology, rehabilitation, medicine and education; in-depth review of the field; appropriate uses of biofeedback as a referral possibility; preparation for supervised clinical biofeedback experience. P: 479-110. **F**

459-520 Rehabilitation and Chemical Dependency 3 Credits

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage. **F**

459-525 Rehabilitation of Public Offenders 3 Credits

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system. **W**

459-550 Independent Living 2 Credits

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program. **W**

459-555 Rehabilitation of the Older Disabled Worker 2 Credits

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability. **W**

459-558 Rehabilitation Support System Networking 2 Credits

Services, eligibility and appeals process of agencies and community organizations that create formal support systems for persons with special needs; the role of interagency collaboration, informal networks and coalitions that create advocacy channels. **F**

459-560 Assistive Technology 2 Credits

Provision of technology to enhance the lives of persons with disabilities. Delivery system, legislation, and issues related to funding are examined. Specific applications in communication, computers, mobility, and workstations and other technologies are reviewed. **FW**

459-565 Laboratory in Rehabilitation Technology 2 Credits

Experience utilizing technological aids/devices developed for persons with disabilities. Modify/adapt equipment to meet specific functional requirements. Construct switch/control mechanisms for equipment. Develop prototype solutions to vocational and independent living problems.

P: 459-560 or consent of instructor. **FW**

459-585 Rehabilitation and Mental Retardation 2 Credits

Background in mental retardation; vocational evaluation, adult education and adjustment techniques used with adults who are mentally retarded. **FW**

459-587 Management of Employees with Disabilities 3 Credits

Orientation to workers with disabilities in business and industry. Focus is upon the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of workers with disabilities. Governmental requirements, linkage between business and rehabilitation community resources, and staff development are emphasized.

P: junior, senior or graduate standing. **W**

459-598 Field Experience in Rehabilitation 1-2 Credits

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers.

P: 459-101. **R**

459-601 Rehabilitation in the Private Sector 3 Credits

Case coordination to support maximum medical recovery and/or vocational rehabilitation of an injured person involved in insurance-funded cases. Differences between public and private rehabilitation processes. Interviewing, planning, assessing transferable skills, placing in suitable work, and communicating with other involved individuals. Business practices, professional roles, and ethical issues. **P:** 459-310 or graduate standing. **F**

459-602 Rehabilitation Program Operations 3 Credits

Principles and practices in the operation of community rehabilitation programs. Emphasis on knowledge of laws, programs, organizational structures, accreditation standards, consumer services, physical plant management, budgeting practices, and strategies for program evaluations.

459-605 Microcomputer Applications in Rehabilitation 2 Credits

Applications of microcomputer technology and adaptive devices in vocational evaluation, work adjustment, placement and administration. **FW**

**459-610 Psychological Testing –
People With Exceptional Need 2-3 Credits**

Use of common psychometric tests with specific emphasis on selection, evaluation, administration, scoring, and interpretation of standardized tests for individuals who are disabled, including those from various ethnic and cultural groups. **P:** 459-230. **FWS**

459-661 Forensics for the Rehabilitation Professional 2 Credits

Orientation to terminology and practices associated with private sector rehabilitation. Materials specific to working with insurance/litigation cases.

P: 308-132. **W**

459-670 Work Adjustment Services 2-3 Credits

Principles and procedures of adjustment services. Emphasis on the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing. **P:** 459-101 or graduate standing. **FWS**

459-675 Cognitive Rehabilitation 3 Credits

Cognitive functioning and rehabilitation concepts applied to the delivery of public and private human services. Covers remediation, placement and evaluation of specific consumer needs related to traumatic brain damage, stroke, and brain deterioration associated with aging. **W**

**459-680 Application of Theories
in Rehabilitation Counseling 3 Credits**

Major theories and techniques used in rehabilitation counseling. Development of skills in the use of basic counseling techniques with individuals who are disabled and including those from various ethnic and cultural groups.

P: counseling experience, counseling coursework or consent of instructor. **FWS ES-C**

459-682 Sexuality and Disability 2 Credits

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities. **F**

459-685 Group Processes in Rehabilitation Settings 2 Credits

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group. **P:** 459-680. **W**

459-688 Advanced Job Placement 2 Credits

Job placement methods for persons with disabilities. Development of employer account systems and the marketing of job placement services. Use of job readiness scales, development of individualized placement plans, and job seeking skills training programs. Current research in job placement will be assigned and discussed. **P:** 459-410 or consent of instructor. **W**

459-698 Field Experience in Rehabilitation 1-2 Credits

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers. **P:** 459-101. **R**

Physical Education and Athletics**466-101 Discovering Wellness 1 Credit**

Introduction to the components and benefits of high level wellness; includes self-assessment and the development of an action plan for lifetime wellness.

FW GEH/PE HLTH

466-102 Personal Health 2 Credits

Prevention and care of significant physiological and sociological effects of selected personal health problems in our society. **FW**

466-249 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

466-340 ARC Standard First Aid and Personal Safety 2 Credits

American Red Cross certification in standard first aid and personal safety; increase personal safety and accident-prevention knowledge; learn to administer emergency first aid to self or others. **FWS**

466-346 ARC Cardiopulmonary Resuscitation .5 Credits

Techniques of basic life support: recognizing respiratory and/or cardiac arrest and properly administering cardiopulmonary resuscitation (CPR) to maintain life. Successful completion results in one-year certification in ARC basic life support course in CPR. **FWS**

466-349 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

466-350 Prevention and Care of Athletic Injuries 3 Credits

Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries.

P: 466-340 and 308-142 or 308-134 or 466-355. **F**

466-355 Kinesiology 3 Credits

Body movements and principles affecting them. **P:** 308-132. **F**

466-365 Physiology of Exercise 3 Credits

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors. **P:** 308-132. **W**

466-370 Evaluation and Recognition of Athletic Injuries 3 Credits

Professional preparation course for students interested in obtaining certification in athletic training. Emphasis is placed on the acquisition of knowledge and skills required for joint and soft tissue evaluation. **P:** 466-350. **FW**

466-449 Cooperative Education Experience 1-8 Credits

Work and study in an approved position to gain business, industrial and other experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: consent of instructor or department chair. **\$ FWS**

466-490 Athletic Training Practicum 2 Credits

Practical application of training principles: prevention and care of athletic injuries, facilities direction, and program management.

P: 308-132 or 308-134, 466-340, 466-350. **R FW**

467-101 Aerobic Dance 1 Credit

Introduction to aerobic dance as a technique for the development of physical fitness. **FW GEH/PE ACTV**

467-103 Archery/Beginning 1 Credit FW GEH/PE ACTV**467-105 Bow Hunting 1 Credit**

Conservation, safety, selection and care of equipment; techniques and practical bow hunting experience. **P:** 467-103 or equivalent. **F GEH/PE ACTV**

467-107 Badminton 1 Credit FW GEH/PE ACTV**467-109 Basketball 1 Credit R F GEH/PE ACTV****467-110 Bicycling 1 Credit**

Bicycling for health and fitness: safety, technique and knowledge.

FWS GEH/PE ACTV

467-113 Bowling 1 Credit \$ FW GEH/PE ACTV**467-115 Canoe Techniques 1 Credit \$ FW GEH/PE ACTV****467-121 Exercise for Fitness 1 Credit FWS GEH/PE ACTV****467-126 Football .5 Credits R F GEH/PE ACTV****467-129 Golf 1 Credit**

Fundamental principles of golf; skills, history, etiquette and application of techniques. Required: play 27 holes of golf, pay greens fees, furnish 3 golf balls for class use. **\$ FWS GEH/PE ACTV**

467-132 Horseback Riding – Beginning Western 1 Credit

Western horsemanship: basic body position and control at the walk, trot and lope. **\$ GEH/PE ACTV**

467-133 Horseback Riding – Beginning English 1 Credit

\$ FW GEH/PE ACTV

467-134 Horseback Riding – Intermediate English 1 Credit

English riding skills: serpentine and figure eights at advanced gaits, simple lead changes, side pass and turns on the forehand and haunches.

P: consent of instructor. **\$ GEH/PE ACTV**

467-135 Walking/Jogging 1 Credit

The study and practice of walking/jogging as an exercise philosophy, as an exercise technique and an exercise program. **FW GEH/PE ACTV**

467-136 Karate .5 Credits FW GEH/PE ACTV**467-140 Orienteering 1 Credit F GEH/PE ACTV****467-142 Outdoor Skills 1 Credit \$ FW GEH/PE ACTV****467-144 Personal Defense 1 Credit**

Development of physical fitness for defense consciousness; techniques of initial and basic defense skills in weapon and rape attacks. **FWS GEH/PE ACTV**

467-145 Practicum in Intercollegiate Athletics 1 Credit

Practical experience in intercollegiate athletics, including completion of a season as a member of an intercollegiate team.

P: 467-200 or consent of instructor. **R FW GEH/PE ACTV**

467-146 Racquetball/Beginning 1 Credit FW GEH/PE ACTV**467-147 Racquetball/Intermediate .5 Credits FW GEH/PE ACTV****467-148 Relaxation 1 Credit FW GEH/PE ACTV****467-152 Skiing 1 Credit \$ W GEH/PE ACTV**

467-153 Skiing – Cross Country 1 Credit

Selection of equipment, waxing, flatland, uphill and downhill techniques, and touring experiences in Nordic skills. **\$ W GEH/PE ACTV**

467-159 Softball 1 Credit W GEH/PE ACTV**467-163 Swimming/Beginning 1 Credit FW GEH/PE ACTV****467-165 Swimming/Intermediate 1 Credit FW GEH/PE ACTV****467-167 Swimming/Advanced 1 Credit****467-173 Skin and Scuba Diving 1 Credit \$ FWS GEH/PE ACTV****467-176 Tennis/Beginning 1 Credit FWS GEH/PE ACTV****467-178 Tennis/Intermediate 1 Credit R FWS GEH/PE ACTV****467-180 Track and Field .5 Credits R W GEH/PE ACTV****467-182 Tumbling 1 Credit**

Lab course to develop tumbling skills: forward, backward and sideways rotational, springing and vaulting movements from hands and feet; basic to advanced aerial tumbling. **W GEH/PE ACTV**

467-185 Volleyball 1 Credit R FW GEH/PE ACTV**467-187 Weight Training 1 Credit FWS GEH/PE ACTV****467-189 Wrestling .5 Credits R W GEH/PE ACTV****467-200 Orientation to Intercollegiate Athletics 1 Credit**

Introduction to intercollegiate athletics, including NCAA and conference regulations; current issues, such as professional sports, costs, drugs, Title IX, minority issues and ethics; components of athletic programs; physiology of exercise; and psychology of sport. **FW**

467-241 Advanced Lifesaving 1 Credit

Red Cross training program in knowledge and skills needed to save one's own or another's life in an emergency. **P: ARC swimmers level. F**

467-265 Physical Activities for Young Children 2 Credits

Sequential development of physical perceptual skills in children, birth to age 5; perceptual motor activities that promote development. **FW**

467-342 Water Safety Instructor 2 Credits

American Red Cross training course. Teaching and testing of swimming, lifesaving skills and knowledge of water safety; theoretical and practical knowledge and assistance in teaching of Red Cross lifesaving and water safety courses. **P: 467-241. W**

467-345 Basketball Officiating 1 Credit

Rules and officiating techniques for men's and women's basketball; preparation for DGWS and/or WIAA officiating certifications. **P: consent of instructor. \$ F**

467-346 Football Officiating 1 Credit

Application of football officiating rules and techniques.

P: consent of instructor. F

467-347 Wrestling Officiating 1 Credit

Rules and techniques of wrestling officiating. **\$ F**

467-350 Principles of Physical Education and Athletics 2 Credits

Principles of physical education based on scientific facts and educational ideals, aims and objectives of physical education at various school levels. **W**

467-360 Problems in Athletics 2 Credits

Identification, interpretation and discovery of solutions for problem areas in athletics: human relationships, intellectual strategies, competitive unity, sex discrimination and sport characteristics. **W**

467-401 Coaching Gymnastics 2 Credits

Elements of gymnastic tumbling and use of gymnastic apparatus as part of a modern physical education program. **W**

467-450 Organization/Administration of Physical Education 2 Credits

Everyday problems encountered by physical education instructors, relationship of physical education to general education, objectives of physical education; utilization, planning and care of facilities and equipment; time allotment, classification of activities and children, leadership, organization, supervision, routine procedures. **F**

467-460 Coaching Basketball 2 Credits

Fundamentals and methods of teaching and coaching basketball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. **W**

467-461 Coaching Football 2 Credits

Fundamentals and methods of teaching and coaching football, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. **F**

467-470 Coaching Baseball 2 Credits

Fundamentals and methods of teaching and coaching baseball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. **W**

467-471 Coaching Track and Field 2 Credits

Fundamentals and methods of teaching and coaching track and field, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. **W**

467-477 Coaching Tennis 2 Credits

Coaching strategies; philosophy, communication, motivation, diet, training and conditioning, singles and doubles. Budgets, competition planning and evaluation techniques are included.

P: varsity tennis experience or consent of instructor. FW

467-478 Coaching and Officiating Volleyball 2 Credits

Skills and techniques of coaching and officiating competitive volleyball.

P: 467-185 or one year competitive volleyball. **F**

467-479 Coaching Wrestling 2 Credits

Philosophies and methods of teaching and coaching wrestling skills; organization and administration of competitive wrestling programs; and theories of wrestling coaching strategies. **F**

467-480 Coaching Youth Athletes 2 Credits

Coaching strategies for organized non-varsity youth sports programs--philosophy, psychology, physiology, pedagogy, prevention and care of injuries, and legalities. **FWS**

467-490 Practicum in Coaching 1-3 Credits

On- or off-campus work and study in athletic coaching with competitive teams.

P: completion of coaching course in area of practicum. **FW**

Psychology**479-100 Psychology Seminar I – Foundations 1 Credit**

An orientation activity for all students in their initial semester as a psychology program student. Information concerning psychology as a discipline, applied profession, and liberal arts program is presented. Career and graduate training opportunities are reviewed. Students continue enrollment in the seminar until they have completed 479-100, 120, 150 and 190 and gained approval for their individual program plan.

479-110 General Psychology 3 Credits

An introduction to psychology as a discipline and applied science. Emphasis is placed on scientific methodology as it is applied to behavior, learning, memory, perception, motivation, development, individual differences, mental health, the physiological basis for behavior, and on the application of psychological principles to human experience. **FWS GES/BSCI PSYC**

479-150 Humanistic Psychology 3 Credits

The course will address the question of "Who am I?" from a contemporary horizon where concerns of psychology intersect biology, philosophy, sociology, anthropology, history and religion. From there we move toward possible answers to man's perennial questions about himself and his future through readings and discussions of key works. The overall objective of the course will be to help the student construct, for himself, a viable answer to the classical question, "Why am I?". **FWS**

479-190 Psychological Research Methods 4 Credits

An introduction to research methods used in the behavioral sciences. Lecture and laboratory activities involve applications of methodologies and computer technologies to understand and produce research compatible with American Psychological Association standards. **FW**

479-210 Introduction to Applied Psychology 3 Credits

Introduction to the application of psychological theories, methods of investigation, and research findings to a diverse spectrum of social problems. Emphasis is placed on the use of scientific psychology to improve aspects of everyday life. **P: 479-110. FW ES-B**

479-249 Cooperative Education**Experience in Psychology 1-8 Credits**

Work and study in an approved off-campus position to gain professional, business and industrial experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: junior standing and consent of instructor and grade point average of 2.5 or better, and enrollment in the Psychology program. **\$ R**

479-251 Child Psychology 3 Credits

A study of the total psychological development of children emphasizing age groups spanning the preschool and prepubescent child, and methods for scientific measurement and understanding of child behavior. **P: 479-110. FWS**

479-270 Social Cognition and Behavior 3 Credits

Social factors affecting the behavior, thought processes, and attitudes of individuals. Includes attitude assessment and change, prejudice, interpersonal attraction, social influence, aggression, cognitive biases and attributions.

P: 479-110. **FWS**

479-281 Environmental Psychology 3 Credits

Psychological aspects of person/environment interaction. People impacts on environment, and environmental impacts on people. Aspects of recreational environment, population density and stress factors. **P: 308-122 or 308-150.**

479-298 Psychology Field Experience 2 Credits

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

479-300 Psychology Seminar II 1 Credit

The second level of seminar for psychology program students. Activities center on sharing knowledge and experience among faculty and students and on an assessment of the development of program level competencies by students.

P: 479-100. **FWS**

479-349 Cooperative Education**Experience in Psychology 1-8 Credits**

Work and study in an approved off-campus position to gain professional, business and industrial experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: junior standing and consent of instructor and grade point average of 2.5 or better, and in the Psychology program. **\$ R**

479-390 Experimental Psychology 4 Credits

Experimental research methods used in basic and applied areas of psychology. Methodological issues introduced in context of actual research problems for integrated treatment of content and methodology. Students will apply this knowledge by participating in laboratory activities and designing and conducting their own experiments. **P: 354-130 and 479-190. FW**

479-398 Psychology Field Experience 2 Credits

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

479-400 Psychology Seminar III 1 Credit

The final seminar for psychology program students. Attention is given to the transition to graduate school and/or employment by students. Students develop and conduct an original investigation and report their findings in a formal research paper as a demonstration of their achievement of program competencies.

P: 479-300. **FWS**

479-449 Cooperative Education**Experience in Psychology 1-8 Credits**

Work and study in an approved off-campus position to gain professional, business and industrial experience. Normally entails recurring, supervised work periods, each one building and expanding on the previous.

P: junior standing and consent of instructor and grade point average of 2.5 or better and Psychology program student. **\$R**

479-451 Children's Learning 3 Credits

Psychological study of basic learning processes in infants and young children. How and why learning occurs and how the course of learning can be modified, discussed from theoretical, research, and practical orientations including simple behavioral responses, concepts and language.

P: 212-124 and 479-110. **F**

479-460 Personality and Mental Health 3 Credits

An introduction to the areas of psychology which are concerned with the recognition of the positive principles of mental health and their application to human behavior. In addition, an examination is made of a variety of theories which are representative of the major views of leading thinkers on the subject of personality and personality development. **FW**

479-480 Individual Research Project I 1 Credit

Preliminaries of active research through the development of a research proposal which includes the problem statement, review of the literature and the design of the research project. **P:** 479-210 and 479-390. **FWS**

479-481 Individual Research Project II 1 Credit

Research in a personal area of interest within the behavioral sciences. Requirements include the completion of a research report which meets American Psychological Association guidelines. **P:** 479-480. **FWS**

479-483 Human Resource Development 2 Credits

Foundation of human resource selection and development in the business and industrial setting. The sub set of personnel management concerned with staffing, orientation, appraisal, development, counseling, and compensating employees constitute the major topics of study.

P: 479-110 or 479-150 and 150-150. **FWS**

479-484 Introduction to Behavior Modification 2 Credits

An introduction to the applied analysis of behavior. Emphasis is placed on the fundamentals of behavior modification, models of behavior control, and applications in a variety of settings. **P:** junior standing and at least three Psychology courses or consent of instructor. **FW**

479-498 Psychology Field Experience 2 Credits

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

479-520 Psychology: Its History and Systems 3 Credits

History of psychology and influence of early competing schools of thought: structuralism, functionalism, behaviorism, Gestalt psychology, and psychodynamic psychology. Evolution to present as a diverse behavioral science with emphasis on neobehaviorism, humanistic psychology and cognitive psychology. **P:** 479-110. **FW**

479-530 Psychology of Learning 3 Credits

A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized. **F**

479-535 Motivation and Emotion 3 Credits

An experimentally oriented introduction to the fundamental principles of motivation and emotion. **P:** 479-110 and junior standing and nine or more credit hours in psychology, consent of instructor. **W**

479-540 Psychology of Individual and Group Differences 3 Credits

Nature and extent of differences in individuals and groups are studied. Intelligence, achievement, aptitudes, interests, attitudes, and general personality are the major differences included. Race, sex, nationality, social class and age in relation to individual differences are studied. **P:** 479-110 and one additional Psychology course or consent of instructor. **ES-C**

479-551 Children's Social Reasoning 3 Credits

Focused, in-depth study of social reasoning from birth through late childhood. Empathy, friendship, altruism, multicultural perceptions, shyness, assertiveness, aggression, loneliness, morality, values and global responsibility. Heredity/environment-based theories. Assessment tools and prevention and intervention programs. **P:** recommend at least one: 479-251, 212-124, 212-264, or 479-270. **ES-C**

479-552 Adolescent Psychology 3 Credits

The physical, emotional, social, moral and intellectual development of secondary school youth. **P:** 479-110. **FWS**

479-561 Abnormal Psychology 3 Credits

A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral is studied. **FWS**

479-570 Assertive Training Procedures 2 Credits

Training in interpersonal behavior and communications in which persons learn to defend their legitimate rights without violating the rights of others. **FWS**

479-571 Introduction to Health Psychology 3 Credits

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies.

P: consent of instructor (usually requires 10 credits in Psychology). **F**

479-574 Psychology of Women 2 Credits

The myths and stereotypes of early psychoanalytic view of women, critical issues and events of female experience, from prenatal through adulthood; meaning of sexuality, contemporary life styles, and the meaning of aging.

P: 479-110. **FW**

479-575 The Psychology of Marriage and the Family 2 Credits

A study of the interpersonal relations involved in dating, mating and family collaboration with growing awareness of patterns for self-integration. **FW**

479-577 Consumer Psychology 3 Credits

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer problems, and their solutions. **P: 479-110. W**

479-579 Public Relations 2 Credits

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications and special publics. **FWS**

479-581 Industrial Psychology 2 Credits

A survey of the application of psychological principles of man's vocational pursuit. Emphasis is on individual differences and group behaviors which are involved in personnel selection, human factors engineering, industrial safety, motivation, personnel training, and consumer behavior. Course material is based primarily upon the latest behavioral science research in the field of industrial psychology. **P: 479-110. FW**

479-582 Human Resource Management 3 Credits

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation. **FWS**

479-598 Psychology Field Experience 2 Credits

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

479-601 Workshop – Special Topics in Psychology 1-3 Credits

Current specialized topics studied in a small group setting utilizing experimental activities. **P: consent of instructor. R**

479-603 Management of Employee Reward Systems 3 Credits

Review of issues in the reward and compensation of employees and of systematic methods for the determination of employee wages, incentives and benefits. Psychological theories of motivation, external equity, job analysis, identifying compensable factors used in job evaluation, comparable worth and performance appraisal, individual salary determination.

P: 479-483 or 479-582. W

479-632 Perception 3 Credits

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing. **F**

479-666 Alcoholism and Family Systems Intervention 2 Credits

The role of alcoholism in the family and how to intervene therapeutically. **WS**

479-673 Psychology of Stress 2 Credits

Nature of stress and stress-related diseases, stress in daily life, techniques for managing stress, and plans for reducing stress in personal and professional life. **FWS**

479-675 Right Brain 2 Credits

The two hemispheres of the human brain. Exploration and experience in right hemisphere modes of consciousness, through techniques such as meditation, hypnosis, drawing, guided imagery and dreaming. **WS**

479-679 Advanced Public Relations 2 Credits

Practice in planning and directing specific public relations programs, using the case problem approach. **P: 479-579 or consent of instructor. W**

479-685 Recruitment and Selection of Human Resources 3 Credits

In-depth examination of the processes involved in the design and implementation of procedures for selecting employees; the impact these procedures have on the organization; and recruitment, job analysis, testing methods, legal issues, selection strategies, career development. **P: 479-582 or 479-483. W**

479-690 Psychological Measurement 3 Credits

An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability, and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions. **W**

479-693 Field Practicum in Public Relations Specialization 1-3 Credits

Opportunity to apply public relations principles in a practical setting. All coursework for the public relations specialization must be completed prior to the practicum that serves as a capstone for the specialization. Both setting and job description must be approved by the faculty supervisor. **R FWS**

479-698 Psychology Field Experience 2 Credits

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems.

School Psychology**489-601 Brazelton Neonatal Behavioral Assessment 2 Credits**

Philosophy and technique of using the Brazelton Neonatal Behavioral Assessment Scale for evaluating infant personality and development.

P: consent of instructor.

Transdisciplinary**500-100 Applied Student Leadership 2 Credits**

Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. **FW**

500-477 International Study 1-16 Credits

Interinstitutional credit exchange for students accepted in university-approved study abroad or international exchange programs offered through the Office of International Programs at recognized/accredited institutions in other countries.

R

Faculty and Academic Staff



Chancellor's Office

Sorensen, Charles W., 1988, Professor and Chancellor, Ph.D., Michigan State University
 Davis, Gail, 1995, Development/Marketing Specialist, B.S., UW-La Crosse
 Enger, John K., 1969, Director of University Relations, B.A., UW-Eau Claire
 Hittner, Suzette F., 1991, Assistant Director, Development and Alumni Services, M.A., Western Michigan University
 Jennifer Homer, 1996, Annual Fund and Research Director, B.S., UW-Stout
 Jordan, Janice R., 1979, Assistant to the Chancellor, Associate, Presentation Junior College
 Reisinger, Patricia A., 1982, Director, Development and Foundation, M.S., UW-Stout
 Steffen, Don, 1982, University Editor, B.S., UW-Stout
 Weber, Donna M., Lecturer and Affirmative Action Officer, M.E.P.D., UW-Stout
 Wiensch, David, 1994, Business Manager/Planned Giving Officer, Development and Alumni Services, B.B.A., UW-Eau Claire

Academic and Student Affairs • Provost's Office

DePuy, George N., 1991, Professor, Provost and Vice Chancellor, Ph.D., Syracuse University
 Dobrunz, Carol Ann, 1965, Professor and Assistant Vice Chancellor, Ph.D., University of Oregon
 Hauser, Patricia, 1993, Director of Institutional Research, Ph.D., UW-Milwaukee
 Kuester, Vickie Jo, 1990, Administrative Program Specialist, M.S., UW-Stout
 Sedlak, Robert A., 1983, Professor and Associate Vice Chancellor, Ph.D., The Pennsylvania State University

Continuing Education/Extension and Summer Session

Van Osdale, John, 1968, Associate Professor and Director, M.S., Bradley University
 Applehans, Deanna, 1985, Outreach Program Manager, M.S., UW-Stout
 Bolin, Robert R., 1988, Associate Director, M.S., UW-Madison
 Smith, Christopher A., 1983, Outreach Program Manager, M.S., DePaul University
 White, Sandra K., 1990, Outreach Program Manager, M.A., George Washington University

Library Learning Center

Jax, John J., 1959, Associate Professor and Director, C.A.S., University of Illinois
 Anson, Brooke, 1969, Assistant Professor, M.S., University of Illinois
 Hagness, Carol, 1987, Senior Academic Librarian, M.S., UW-Madison
 Lugo, Lelahvon A., 1988, Senior Academic Librarian, M.S., University of Indiana
 Madland, Denise A., 1979, Senior Academic Librarian, M.S., University of Illinois
 Muraski, Theresa, 1990, Senior Academic Librarian, M.A., University of South Florida
 Richards, Mary K., 1973, Assistant Professor, M.A., UW-Madison
 Sawin, Philip Q., 1975, Assistant Professor, M.A., UW-Madison
 Schwarz, Philip J., 1967, Associate Professor, M.S., UW-Stout
 Steidinger, Jana Reeg, 1982, Assistant Professor, Ed.S., UW-Madison
 Swannack, Brenda Bley, 1977, Coordinator of Instructional Resources Service, M.S., UW-Stout
 Thorie, Kevin Robert, 1990, Academic Archivist, M.A., UW-River Falls

Research Promotion Services

Knous, Ted R., 1989, Associate Dean for Research and Graduate Studies, Ph.D., University of Minnesota
 Foxwell, V. Susan, 1978, Administrative Program Manager, M.S., UW-Stout

Learning Technology Services

Jacobson, Rosemary, 1977, Director, Radio/TV, M.S., UW-Stout
 Berg, Kristen, 1992, Broadcast Specialist, B.S., University of Minnesota
 Jakober, Edmund, 1980, Senior Broadcast Specialist, B.S., UW-Stout
 Juchno, Arthur G., 1978, Senior Broadcast Specialist, M.S., UW-Stout

Instructional Technology Service

Hagaman, Joseph C., 1972, Professor and Director, Ph.D., Michigan State University
 Ingram, Margaret E., 1975, Administrative Program Manager, M.S., UW-Stout
 Lauson, John J., 1978, Administrative Program Manager, Ed.S., UW-Stout
 Springer, Martin S., 1974, Senior Administrative Program Specialist, M.S., UW-Stout

Other Academic Personnel

Merritt, Kari, 1993, Instructional Specialist, B.S., UW-Stout
 Thompson, Mary E., 1975, Associate Dean, Ph.D., University of Michigan
 Barnhart, Carolyn M., 1974, Administrative Officer, M.A., University of Minnesota

College of Arts and Sciences

Art and Design

Verdon, Ronald H., 1976, Professor and Department Chair, M.F.A., Syracuse University
 Bloedorn, Gene, 1971, Professor, M.F.A., UW-Madison
 Blum-Cumming, Nancy, 1986, Lecturer, M.F.A., Louisiana State University
 Boppel, Todd A., 1963, Professor, M.F.A., University of Southern California
 Bowker, Sarah S., 1988, Special Librarian, M.F.A., University of Iowa
 Briggs, Patricia, 1995, Lecturer, M.A., Ohio State University
 Cumming, Douglas A., 1967, Professor, M.F.A., Indiana University
 DeHoff, William A., 1984, Lecturer, M.F.A., Temple University
 DeLong, Paul E., 1981, Associate Professor and Program Director, B.F.A. Degree in Art and B.S. Degree in Art Education, M.F.A., UW-Madison
 DeMaine, Mary R., 1992, Associate Professor, Ph.D., University of Minnesota
 Eaton, Timothy L., 1990, Lecturer, B.F.A., Minnesota College of Art
 Ellison, William, 1995, Lecturer, M.A., UW-Superior
 Gamache, Alan D., 1967, Associate Professor, M.F.A., Tulane University of Louisiana
 Gilbert, Humphrey T., 1970, Professor, M.F.A., UW-Madison
 Hodge, Challis D., 1995, Lecturer, M.Des., University of Cincinnati
 Hunt, Susan K., 1978, Professor, M.F.A., Indiana University
 Johnston, Dale K., 1995, Lecturer, B.F.A., Minneapolis School of Art
 Kallsen, Marc, 1995, Assistant Professor, M.A., University of Minnesota
 Klein, Sheri, 1993, Assistant Professor, M.F.A., Art Institute-Chicago
 Manriquez, Dion R., 1967, Assistant Professor, M.F.A., University of Iowa
 Maury, Kate, 1994, Assistant Professor, M.F.A., Alfred University
 Merks, Jane Tilley, 1995, Lecturer, M.Des., University of Alberta
 Mitton, Maureen, 1992, Assistant Professor, M.A., San Diego State University
 Oliphant, Thomas, 1994, Lecturer, M.F.A., Cranbrook Acad/art
 Perri, John A., 1966, Professor, M.F.A., Alfred University
 Pratt, Benjamin, 1993, Assistant Professor, M.I.D., Pratt Institute
 Price, Rob Alyn, 1970, Professor, M.F.A., Ohio University
 Shelby, Rebecca, 1994, Lecturer, M.F.A., University of North Carolina
 Smith, Claudia G., 1976, Professor, Ph.D., University of Minnesota
 Wilson, James, 1995, Lecturer, B.S., University of Cincinnati
 Wimmer, Charles E., 1966, Professor, M.F.A., University of Minnesota
 Wong, Eddie F., 1966, Professor, M.F.A., University of New Mexico

Biology

Nelson, George, 1966, Professor and Department Chair, M.S., Colorado State University
 Bomar, Charles, 1994, Assistant Professor, Ph.D., University of Wyoming
 Garb, Frances, 1983, Professor, Ph.D., North Dakota State University
 Gehrke, Janice Marten, 1988, Associate Professor, Ph.D., University of Georgia
 James, F. Russell, 1968, Professor, Ph.D., University of Nebraska
 Miller, Louis A., 1985, Professor, Ph.D., University of Missouri
 Parejko, Kenneth S., 1992, Assistant Professor, Ph.D., UW-Madison
 Vazquez, Ricardo, 1994, Assistant Professor, Ph.D., Yale University
 Wilson, Richard, 1966, Professor, Ph.D., Utah State University

Chemistry

Mueller, William J., 1969, Professor and Department Chair, Ph.D., University of Idaho
 Crandall, John C., 1990, Assistant Professor, Ph.D., University of North Dakota
 Ondrus, Martin G., 1971, Professor, Ph.D., University of Iowa
 Orfield, Mary, 1972, Professor, Ph.D., University of Minnesota
 Ruenger, Eugene, 1983, Associate Professor, Ph.D., University of Minnesota
 Vande Linde, Ana Magdalena, 1993, Assistant Professor, Ph.D., Wayne State University
 Zimmerman, Gerald, 1973, Professor, Ph.D., Iowa State

English

Polansky, Janet, 1973, Professor and Department Chair, Ph.D., Tulane University
 Beckham, Sue B., 1969, Professor, Ph.D., University of Minnesota
 Dougherty, Cerane T., 1980, Professor and Dean, Ph.D., Université Laval
 Flint, Carole, 1975, Assistant Professor, M.A., UW-Eau Claire
 Gardner Jr, Richard M., 1970, Associate Professor, M.A., University of Iowa
 Horan, Robert James, 1985, Professor, Ph.D., University of Pennsylvania
 Johnston, Susanne, 1991, Lecturer, M.A., University of Wyoming
 Jones, Viola Krostag, 1988, Lecturer, M.A., University of Tennessee
 Kapus, Jerry, 1991, Lecturer, Ph.D., University of Illinois
 Laine, Geraldine, 1968, Instructor, M.A., University of Detroit
 Lang, Warren P., 1969, Professor, Ph.D., Indiana University
 Leeson, Clark A., 1989, Lecturer, M.S., University of Minnesota
 Levy, Michael M., 1980, Professor, Ph.D., University of Minnesota
 McCordick, David, 1969, Professor, Ph.D., UW-Madison
 McManamy, Patricia, 1970, Assistant Professor, M.S., UW-Madison
 Meier, Robert C., 1968, Associate Professor, B.A., Brown University
 Moran, Robert Thomas, 1971, Associate Professor, M.A., UW-Madison
 O'Neill, William F., 1980, Professor, Ph.D., University of Minnesota

Perusek, Su Darshan, 1988, Associate Professor, Ph.D., Kent State University
 Quinn, Helen, 1978, Associate Professor, M.A., UW-River Falls
 Rathke, Mary Jo, 1959, Associate Professor, M.A., UW-Madison
 Riordan, Daniel G., 1970, Professor, Ph.D., University of North Carolina
 Schuler, Robert J., 1978, Professor, Ph.D., University of Minnesota
 Shiell, Timothy C., 1992, Assistant Professor, Ph.D., University of Iowa
 Thurin, Susan M., 1968, Professor, Ph.D., UW-Milwaukee
 Williamson, Sarah, 1988, Lecturer, M.A., Ball State University
 Wolf, Virginia L., 1977, Professor, Ph.D., University of Kansas

Mathematics, Statistics and Computer Science

McGuire, William, 1982, Professor and Department Chair, D.A., University of Northern Colorado
 Antonipillai, Anne, 1994, Assistant Professor, Ph.D., Marquette University
 Christie, Diane, 1993, Lecturer, M.S., University of Minnesota
 Ellison, Marian J., 1978, Associate Professor, Ph.D., University of Minnesota
 Hadidi, Nasser, 1979, Professor, Ph.D., Virginia Polytechnic Institute
 Haloupek, William J., 1992, Assistant Professor, Ph.D., UW-Madison
 Hansen, Stuart, 1994, Assistant Professor, Ph.D., University of Iowa
 Hossain, Ayub, 1988, Professor, Ph.D., Ohio State University
 Hunt, John R., 1970, Professor and Associate Dean, D.A., University of Northern Colorado
 Johnston, Bruce W., 1983, Professor, Ph.D., University of Wyoming
 Kothmann, Margret E., 1988, Lecturer, Ph.D., Pennsylvania State University
 Kruschwitz-List, Deborah, 1983, Lecturer, M.S., Mankato State University
 Ley, James P., 1967, Associate Professor, M.S., Montana State College
 Ma, Peiming, 1993, Assistant Professor, Ph.D., Purdue University
 Maki, Eino E., 1963, Associate Professor and Program Director, B.S. Degree in Applied Mathematics, M.S., UW-Madison
 Mikkelsen, Dennis J., 1980, Professor, Ph.D., UW-Milwaukee
 Mikkelsen, Ruth L., 1982, Professor, Ph.D., UW-Milwaukee
 Teleb, Radi, 1989, Associate Professor, Ph.D., University of Illinois at Chicago
 Thielman, Loretta J., 1983, Professor, Ph.D., Oregon State University
 Thielman, Peter J., 1984, Lecturer, M.S., Oregon State University
 Wagner, Paul J., 1990, Lecturer, J.D., UW-Madison
 Wu, Mingshen, 1989, Associate Professor, Ph.D., University of South Carolina
 Zito, Eileen M., 1974, Associate Professor, Ph.D., University of Minnesota

Physics

Fossum, Steve P., 1966, Professor and Department Chair, Ph.D., UW-Madison
 Foley, Robert J., 1977, Assistant Professor, M.S., UW-Madison
 Larchez, Mark E., 1970, Professor, Ph.D., Texas A&M University
 Messer, Rebecca Jean, 1991, Lecturer, M.S., Mankato State University
 Pejisa, James A., 1975, Assistant Professor, M.S., UW-Stout
 Rada, James, 1991, Lecturer, M.S., University of Minnesota
 Rompala, John T., 1981, Professor, Ph.D., Clemson University

Social Science

Evans, Robert E., 1970, Associate Professor and Department Chair, M.A., Montana State University
 Armstrong, Edward G., 1988, Lecturer, Ph.D., Temple University
 Bailey Jr, Willard F., 1966, Associate Professor, M.A., University of Minnesota
 Berger, Ursula E., 1988, Lecturer, M.S., UW-Madison
 Bigony, Beatrice A., 1974, Professor, Ph.D., University of Michigan
 Blair, Carl, 1994, Lecturer, Ph.D., University of Minnesota
 Claflin-Chalton, Sandra J., 1991, Lecturer, Ph.D., University of Oklahoma
 Dippmann, Jeffrey W., 1991, Lecturer, M.A., Northwestern
 Eggert, James, 1968, Associate Professor, M.A., Michigan State University
 Gunderson, Carol S., 1987, Lecturer, M.A., Webster University
 Hamm, Peder W., 1977, Associate Professor, M.A., Northern Illinois University
 Jalilvand, Mahshid, 1985, Associate Professor, Ph.D., University of Nebraska
 Kennett, Frank S., 1978, Assistant Professor, M.A., Tulane University of Louisiana
 Kirby, Alexander Beam, 1991, Lecturer, Ph.D., George Washington University
 Mandelson, Dayle A., 1976, Associate Professor, M.A., Syracuse University
 Nero, Sharon A., 1975, Professor, Ph.D., University of Minnesota
 Ninneman, Thomas R., 1970, Professor, Ph.D., University of Wyoming
 Pamperin, Bruce F., 1983, Professor, Ph.D., UW-Madison
 Petersdorf, Diana M., 1982, Lecturer, M.A., University of Nevada
 Reardon, John E., 1986, Associate Professor, Ph.D., University of Notre Dame
 Rutkowski, Lydia, 1966, Lecturer, M.S., University of Illinois
 Snyder, Stephen A., 1970, Professor and Director of International Programs, Ph.D., University of Minnesota
 Sorensen, Charles W., 1988, Professor and Chancellor, Ph.D., Michigan State University
 Tyson, Richard J., 1976, Associate Professor, M.A., Syracuse University
 Zeidel, Robert F., 1991, Lecturer, Ph.D., Marquette University

Speech Communication, Foreign Languages, Theatre and Music

Hayes, Raymond, 1973, Assistant Professor and Department Chair, M.A., Ball State University
 Berger, Ursula E., Lecturer, M.S., UW-Madison
 Falkofski, Karin, 1965, Lecturer, M.A., University of Minnesota
 Graber, Stephanie, 1993, Lecturer, Ph.D., University of Utah
 Griffiths, Dennis R., 1972, Instructor, M.A., University of Connecticut
 Hartung, Ilse, 1988, Lecturer, M.S., UW-Stout
 Heise, Howard S., 1967, Assistant Professor, M.A., State University of South Dakota
 Liebergen, Patrick M., 1978, Professor, D.M.A., University of Colorado
 Miller, James Michael, 1985, Professor, Ph.D., Southern Illinois University
 Moss, James C., 1989, Assistant Professor, M.S., University of Illinois
 Nelson, Margaret C., 1988, Associate Professor, Ed.D., University of Illinois-Urbana
 Nicolai, Michael T., 1974, Professor, M.A., University of New Mexico
 Pruett, Jeffery M., 1988, Associate Professor, D.M.A., Louisiana State University
 Rider, Ellen T., 1986, Lecturer, M.A., Ohio State University
 Stauffacher, Paul K., 1983, Associate Professor, M.F.A., UW-Madison
 Wallen, Martha, 1972, Professor, Ph.D., UW-Madison
 Weston-Miller, Susan B., 1987, Lecturer, M.S., Southern Illinois University

English Language Institute

Halgrimson Arranz, Pamela, 1994, Lecturer and Director, M.S., Queens College
 Flom, Hannah, 1995, Associate Lecturer, M.A., San Francisco State University
 Hamadou, Nancy, 1994, Lecturer, M.A., Ohio University

College of Human Development

Education, School Counseling and School Psychology

Stephenson, Donald J., 1970, Professor and Chair, Ed.D., University of Missouri
 Block, Alan A., 1990, Associate Professor, D.A., St. John's University
 Cheatham, Alflorance, 1994, Lecturer, M.Ed., Harvard University
 Cruz, Hector, 1972, Assistant Professor, M.S., UW-Stout
 Deutscher, John C., 1966, Professor, Ed.D., University of North Dakota
 Gillett, Amy Lynn, 1990, Associate Professor and Program Director, Special Education Certification and B.S. Degree in Vocational Rehabilitation, Ph.D., University of North Dakota
 Green, Judith, 1992, Assistant Professor, Ph.D., University of Nebraska
 Hackbart, Constance, 1995, Assistant Professor and Program Director, M.S. Degree in Guidance and Counseling/School Counseling, M.S.E., UW-Oshkosh
 Hopkins-Best, Mary, 1975, Professor and Associate Dean, Ed.D., Virginia Polytechnic Institute
 Hogstad, Carol, 1969, Lecturer, M.S., UW-Stout
 Holloway, Alfretta, 1994, Assistant Professor, Ph.D., Southern Illinois University
 LaVenture, Lynn A., 1991, Lecturer, M.S., UW-Stout
 Mjfeldt, Harlyn, 1965, Associate Professor and Director of Office of Teacher Education, Ed.S., UW-Stout
 Pape, Phillip J., 1995, Lecturer, B.A., UW-Stout
 Parkhurst, Howard, 1995, Assistant Professor, Ph.D., Wayne State University
 Soeldner, Jo, 1985, Lecturer, M.S.E., UW-Stout
 Stanton, Jill A., 1978, Assistant Professor and Program Director, M.S. Degree in Education, M.E.P.D., UW-Stout
 Stephenson, Sue U., 1970, Professor, Ph.D., Oregon State
 Stoudt, Calvin L., 1970, Professor and Program Director, M.S. Ed. Degree in School Psychology, Ph.D., UW-Madison
 Van Den Heuvel, Dennis, 1991, Professor, Ph.D., UW-Madison
 Van Osedale, John, 1968, Associate Professor and Director, Continuing Education/Extension and Summer Session, M.S., Bradley University

Food and Nutrition

Wilson, Anita, 1966, Professor and Department Chair, Ph.D., Utah State University
 Bayard, Barbara, 1993, Assistant Professor, Ph.D., UW-Madison
 Earl, Gladys, 1964, Assistant Professor, M.S., Colorado State University
 Fahm, Esther Glover, 1990, Professor and Dean, Ph.D., Purdue University
 Jocelyn, Joy A., 1966, Professor and Program Director, B.S. Degree in Dietetics and B.S. Degree in Food Systems and Technology, and M.S. Degree in Food Science and Nutrition, Ph.D., University of Oregon
 Seaborn, Carol, 1993, Assistant Professor, Ph.D., Oklahoma State University
 Timmer, Janice M., 1982, Professor, Ph.D., North Dakota State University

Hospitality and Tourism

Buergermeister, James, 1978, Professor and Department Chair, Ph.D., University of Minnesota
 Bergquist, Brian, 1990, Lecturer, M.S., UW-Stout
 Brede, Thomas, 1994, Lecturer, M.B.A., UW-Whitewater
 D'Souza, Peter A., 1986, Associate Professor, M.S., UW-Stout
 Davies, Robert, 1990, Assistant Professor, M.S., UW-Stout
 Feller, Richard, 1995, Lecturer, B.B.A., Roanoke College
 Giroux, Sharon S., 1984, Associate Professor, Ed.S., UW-Stout

Grant, Paul, 1995, Lecturer, B.A., Carroll College
 Holland, Joseph W., 1986, Professor, J.D., UW-Madison
 Jafari, Jafar, 1973, Associate Professor, Ph.D., University of Minnesota
 Josiam, Bharath M., 1990, Associate Professor, M.S., University of Massachusetts
 McGuirk, Philip H., 1979, Associate Professor, M.S., UW-Stout
 Metelka, Charles J., 1974, Professor, Ph.D., Northwestern University
 Misfeldt, E. Gail, 1969, Assistant Professor, M.S., University of Tennessee
 Nicholls, Leland L., 1977, Professor, Ph.D., University of Tennessee
 Schulz, Teresa M., 1979, Assistant Professor and Program Director, B.S. Degree in Hospitality and Tourism Management, M.S., UW-Stout
 Upchurch, Randall, 1993, Assistant Professor and Program Director, M.S. Degree in Hospitality and Tourism, Ph.D., University of Missouri-Columbia
 Van Loenen, Darrell, 1987, Associate Professor, Ph.D., William Mitchell College
 Way, William R., 1976, Assistant Professor, M.S., UW-Stout

Human Development, Family Living and Community Educational Services

Koeple, Leslie Ann, 1982, Professor and Department Chair, Ph.D., Florida State University
 Anderson, Kevin, 1994, Assistant Professor, Ed.D., University of Northern Iowa
 Begley, Mary, 1995, Lecturer, M.Ed., UW-Eau Claire
 Boe, Joan, 1992, Lecturer, M.S.E., UW-Eau Claire
 Breckner, Ken, 1994, Clinical Instructor, M.S., UW-Superior
 Cook, David R., 1975, Senior Lecturer, Ed.D., Indiana University
 Ellison, Leonard, 1978, Lecturer, M.S., UW-Stout
 Frantz-Cook, Anne M., 1995, Lecturer, M.S., UW-Stout
 Gill, Sandra J., 1969, Professor, Ed.D., Washington State University
 Hanson, Bette A., 1975, Professor, Ph.D., University of Illinois
 Herr, Judith, 1969, Professor and Associate Dean, Ed.D., University of Minnesota
 Hill, Beatrice, 1995, Clinical Instructor, M.S., UW-Eau Claire
 Horan, Joanne, 1993, Clinical Instructor, B.S., UW-Eau Claire
 Huffman, Priscilla D., 1976, Professor, Ph.D., Florida State University
 Hufel, Stanley, 1992, Clinical Instructor, M.S., UW-Stout
 Jax, Judith A., 1972, Professor, Ph.D., University of Minnesota
 Klefstad, Jill M., 1992, Lecturer, M.S., UW-Stout
 Kuehl, Bruce P., 1990, Associate Professor, Ph.D., Texas Tech University
 Lobitz, L. Donald, 1994, Clinical Instructor, M.S., Mankato State Teachers
 Lorenz, Julia R., 1991, Instructional Specialist, B.S., UW-Stout
 Marion, Marian C., 1978, Professor, and Program Director, B.S. Degree in Early Childhood Education, Ph.D., Ohio State University
 Meyer, Rhonda, 1993, Instructional Specialist, B.S., UW-Stout
 Muza, Robin, 1989, Lecturer, M.S., UW-Stout
 Rommel, Judy L., 1989, Associate Professor, Ph.D., University of Minnesota
 Salt, Robert, 1987, Professor and Program Director, B.S. Degree in Human Development and Family Studies, Ph.D., Purdue University
 Skinner, Denise A., 1974, Professor, Ph.D., University of Minnesota
 Thoen, Karen, 1993, Director, Child Care, B.S., UW-Stout
 Warner, Penny, 1991, Lecturer, Ph.D., University of Minnesota
 Weiss, Cherie, 1993, Clinical Instructor, M.S., University of Texas
 Wenzel, Edward J., 1992, Assistant Professor, Ph.D., UW-Madison
 Whitman, Rhondalyn, 1995, Instructional Specialist, B.S., UW-Stout
 Williams, John M., 1976, Professor, Ph.D., Pennsylvania State University
 Zimmerman, Karen, 1973, Professor and Program Director, B.S. Degree in Family and Consumer Educational Services, and M.S. Degree in Home Economics, Ph.D., Iowa State University

Psychology

Franklin, Thomas E., 1975, Professor, and Department Chair, Ph.D., West Virginia University
 Allen, Charles T., 1970, Assistant Professor, M.S., Illinois State University
 Barnard, Charles P., 1972, Professor, and Program Director, M.S. Degree in Marriage and Family Therapy, Ed.D., University of Wyoming
 Baughman, Donald, 1986, Professor, Ph.D., University of Illinois
 Biggerstaff, Edwin L., 1988, Professor, Dean and Program Director, Ed.S. Degree in Guidance and Counseling, Ed.D., North Texas State University
 Byrd, James, 1986, Professor, Ph.D., University of Texas
 Fenton, Paul W., 1968, Associate Professor, M.S., Illinois State University
 Flynn, Mary T., 1983, Associate Professor and Program Director, B.A. Degree in Psychology, Ph.D., University of St. Thomas
 Harris, Lynn James, 1988, Professor, Ph.D., West Virginia University-Morgantown
 Knutson-Kolodzne, James S., 1976, Associate Lecturer, M.S., UW-Stout
 Milanesi, Louis, 1991, Associate Professor, Ph.D., University of California
 Minor, Brier Miller, 1994, Associate Lecturer, M.S., UW-Stout
 Ngo, Paul L., 1989, Associate Professor, Ph.D., University of Notre Dame
 Rains, Mary Jane, 1975, Professor, Ph.D., University of Toledo
 Redmann, Leslie G., 1988, Associate Lecturer, M.A., University of North Dakota
 Ritland, Michael D., 1965, Professor, Ed.D., Colorado State College
 Sherman, Mitchell, 1986, Professor, Ph.D., University of Minnesota
 Smeaton, George, 1988, Professor, Ph.D., State University of New York-Albany

Surdick, Renee S., 1993, Associate Lecturer, M.S.E., UW-Whitewater
 Swanson, Helen A., 1988, Associate Professor, Ph.D., Ohio University
 Tafalla, Richard Joseph, 1990, Associate Professor, Ph.D., University of California
 Weber, Donna M., 1984, Senior Lecturer and Affirmative Action Officer, M.E.P.D., UW-Stout

Rehabilitation and Counseling

Stewart, Shirley, 1974, Associate Professor and Department Chair, M.S., UW-Stout
 Cooper, Arlene M., 1988, Associate Professor and Program Director, M.S. Degree in Guidance and Counseling/Mental Health Counseling, Ed.D., Indiana University
 Emanuel, Ellen J., 1992, Associate Professor, Ph.D., Syracuse University
 Fry, Ronald R., 1970, Assistant Professor, M.S., UW-Stout
 Kirsling, Jerome J., 1972, Assistant Professor, M.S.Ed., UW-Stout
 Modahl, Thomas, 1973, Professor, Ed.D., University of Northern Colorado-Greeley
 Peters, Robert, 1994, Assistant Professor and Program Director, M.S. Degree in Vocational Rehabilitation, Ph.D., University of Northern Colorado
 Rockwood, Gary F., 1989, Associate Professor, Ph.D., Indiana University
 See, John D., 1972, Professor, Ph.D., University of Iowa
 Talledge, Jinny Davis, 1987, Lecturer, M.S., UW-Stout
 Wurtz, P. Robert, 1965, Professor, Ph.D., University of Wyoming

Stout Vocational Rehabilitation Institute

Wesolek, John S., 1969, Professor and Executive Director, Stout Vocational Rehabilitation Institute, Ph.D., University of Northern Colorado
 Kaiser, Gerald A., 1975, Assistant Director, Vocational Development Center, M.S., UW-Stout
 McAlees, Daniel C., 1976, Professor and Director, Research and Training Center, Ph.D., Michigan State University
 Noll, Allen J., 1977, Administrative Program Manager and Director, Center for Rehabilitation Technology, Ed.S., UW-Stout
 Swan, David L., 1981, Assistant Director, Projects With Industry, M.S., UW-Stout
 Annis, Jeffrey A., 1975, Senior Rehabilitation Specialist, M.S., UW-Stout
 Botterbusch, Karl, 1972, Professor, Ph.D., George Washington University
 Coker, Charles C., 1975, Senior Scientist, Ph.D., Bowling Green State University
 Denno, Sandra H., 1991, Rehabilitation Specialist, M.S., University of Michigan
 Fine, Cheryl Ann, 1989, Rehabilitation Specialist, B.S., Uw-stevens Point
 George, Charles, 1994, Rehabilitation Specialist, B.S., UW-Stout
 Hirsch, Kathleen, 1983, Rehabilitation Specialist, M.S., UW-Stout
 Hodges, Bradley, 1993, Rehabilitation Specialist, B.S., St. John's University
 Hubbard, James, 1989, Rehabilitation Specialist, B.S., UW-Stout
 Johnson, William F., 1974, Instructional Program Manager, M.S., UW-Stout
 Kabus, Heather, 1995, Associate Rehabilitation Specialist, B.S., Viterbo College
 Karis, Kimberly A.G., 1988, Rehabilitation Specialist, B.S., UW-Stout
 Lawler, Michael, 1986, Senior Rehabilitation Specialist, B.A., UW-Stout
 Mathson, Deborah J., 1986, Rehabilitation Specialist, M.S., UW-Stout
 Menz, Fredrick, 1973, Professor, Ph.D., University of Illinois
 Pittman, Carolyn S., 1986, Senior Rehabilitation Specialist, B.S., UW-Stout
 Schwartz, Henry M., 1987, Senior Rehabilitation Specialist, M.S., UW-Stout
 Schwartz, Paul J., 1991, Rehabilitation Specialist, M.S., Ohio University
 Thomas, Dale F., 1983, Senior Scientist, Ph.D., Marquette University
 Walker, Michelle A., 1993, Rehabilitation Specialist, M.S., UW-Stout
 Walker, Patricia, 1994, Rehabilitation Specialist, M.S., UW-Stout

College of Technology, Engineering and Management

Apparel, Textiles and Design

- Robeck, Jacqueline, 1986, Professor and Department Chair, Ph.D., Texas Woman's University
 Albrecht, Donna M.J., 1969, Professor and Program Director, B.S. Degree in Apparel Design/
 Manufacturing, Ph.D., University of Minnesota
 Badenoch, Stowe N., 1988, Professor, Ph.D., University of Minnesota
 Christoffersen, Rita, 1963, Professor, Ph.D., UW-Madison
 Cochran, Tena Kathleen P., 1989, Associate Professor, Ph.D., Texas Woman's University
 Heintz, Kenneth, 1970, Professor, Ed.D., University of New York at Buffalo
 Lamb, Wray P., 1976, Instructor and Program Director, B.S. Degree in Retail Merchandising and
 Management, M.S., UW-Stout
 Peterson, Glenyce, 1968, Instructor, M.S., UW-Stout
 Schofield, Nancy, 1979, Lecturer, M.S., UW-Stout

Business

- Johnson, Stanley A., 1968, Associate Professor, and Department Chair, M.B.A., UW-Madison
 Adekola, Abel, 1995, Associate Professor, D.B.A., Nova Southeastern University
 Burntvedt, Thor, 1993, Lecturer, M.S., UW-Stout
 Ferree, Karen S., 1990, Assistant Professor, M.B.A., St. Cloud State University
 Hoener, Shirley A., 1993, Lecturer, M.B.A., Southeast Missouri State University
 Kluver, Kimberly L., 1988, Professor, J.D., University of Minnesota
 Knutson, William, 1992, Associate Lecturer, B.S., UW-Eau Claire
 Kryshak, William J., 1986, Associate Professor, M.B.T., University of Minnesota
 Lehman, Gerald P., 1992, Assistant Professor, M.B.A., UW-Madison
 Maglio, Joseph A., 1981, Professor, Ph.D., University of Minnesota
 Malcolm, Bryan, 1992, Assistant Professor, M.B.A., University of South Dakota
 Martinson, Karen, 1984, Assistant Professor, M.B.A., UW-Eau Claire
 McDonald, Kevin P., 1991, Assistant Professor, M.S., UW-Stout
 Munger, R. Maureen, 1975, Assistant Professor and Program Director, B.S. Degree in General Business
 Administration, M.S., UW-Eau Claire
 Nero, Wayne A., 1974, Professor, Ph.D., University of Minnesota
 Siebold, Bruce E., 1974, Professor and Dean, Ed.D., University of Minnesota
 Smith, Clark Edwin, 1968, Associate Professor, Ph.D., Michigan State University
 Vanden Bloomen, Dennis R., 1983, Associate Professor, Ph.D., University of Tennessee at Knoxville
 Wright, John David, 1984, Assistant Professor, M.A., Utah State University

Communications, Education and Training

- Krueger, Charles T., 1970, Professor and Department Chair, Ph.D., University of Minnesota
 Addie, Jerrold, 1994, Laboratory Manager
 Bensen, Ted M., 1989, Assistant Professor, Ph.D., Iowa State University
 Burntvedt, Thor, 1993, Lecturer, M.S., UW-Stout
 Eighthmy, Myron A., 1993, Assistant Professor, Ed.D., University of Minnesota
 Furst-Bowe, Julie, 1990, Associate Professor and Program Director, M.S. Degree in Training and
 Development, Ph.D., University of Minnesota
 Galloy, Michael, 1993, Associate Professor and Program Director, B.S. Degree in Vocational, Technical
 and Adult Education, Ph.D., Southern Illinois University
 Hartz, Roger L., 1972, Professor, Ed.D., Western Michigan University
 Hendricks, Robert W., 1982, Professor, Ph.D., Ohio State University
 Herr, James F., 1965, Professor, Ed.D., University of Missouri
 Ingram, Terrance R., 1970, Professor, Ph.D., Miami University, Oxford, Ohio
 Johnson, Duane A., 1966, Professor, Ed.D., University of South Dakota
 Lee, Howard, 1986, Professor and Associate Dean, Ph.D., University of Minnesota
 LeFeber, Mark B., 1989, Lecturer, M.S., UW-Stout
 Mooney, Carol T., 1988, Associate Professor and Program Director, B.S. Degree in Marketing
 Education, Ed.D., University of Minnesota
 Schlough, Steven R., 1987, Senior Lecturer, M.S., UW-Stout
 Simenson, Scott, 1982, Assistant Professor, B.S., UW-Platteville
 Sterry, Leonard F., 1978, Professor, and Program Director, M.S. Degree in Industrial/Technology
 Education, Ph.D., UW-Madison
 Tenorio, James, 1975, Professor, Ed.D., University of Minnesota
 Welty, Kenneth, 1992, Associate Professor and Program Director, B.S. Degree in Technology
 Education, Ph.D., University of Illinois

Industrial Management

- Coomer, Jerry Wayne, 1971, Professor and Department Chair, Ph.D., Purdue University
 Applehans, Kenneth L., 1984, Assistant Professor, M.S., UW-Stout
 Arora, Mehar, 1965, Professor, Ph.D., University of Minnesota
 Brouwer, Lynnette, 1994, Assistant Professor, Ph.D., University of Minnesota
 Carlson Jr, Wallace C., 1981, Professor, D.I.T., University Northern Iowa
 Cirkl-Brehm, Nancy, 1990, Lecturer, M.S., UW-Stout
 Finder, Brian, 1995, Assistant Professor, M.S., UW-Stout
 Hansen, Raymond, 1967, Professor, Ph.D., UW-Madison
 Johnson, Sheryl, 1987, Associate Professor, Ph.D. University of Minnesota

- Kumar, Sameer, 1994, Associate Professor, Ph.D., University of Minnesota
 Maleki, Reza, 1995, Professor, Ph.D., North Dakota State University
 Olson, John H., 1974, Professor and Program Director, M.S. Degree in Risk Control, Ph.D., University
 of Minnesota
 Smolarek, Zenon T., 1966, Professor and Program Director, M.S. Degree in Management Technology,
 Ph.D., University of Northern Iowa
 Sorrell, Elbert, 1988, Associate Professor, Ed.D., University of Minnesota
 Stasieluk, Stan, 1995, Lecturer, B.S., UW-Stout
 Stewart, Donna H., 1989, Associate Professor and Program Director, B.S. Degree in Industrial
 Technology, Ph.D., University of Minnesota
 Weckmueller, Ned A., 1976, Associate Professor, M.S., UW-Stout
 Williamson Jr, Hugh P., 1979, Professor, Ph.D., University of Missouri
 Yost, Charles, 1966, Professor, Ph.D., University of Minnesota

Technology

- Berkemer, Robert A., 1977, Professor and Department Chair, Ph.D., University of Minnesota
 Amoaipim, Jonas, 1982, Professor, Ph.D., Oregon State University
 Asthana, Rajiv, 1995, Assistant Professor, Ph.D., UW-Milwaukee
 Baldwin, Thomas R., 1970, Professor, Ed.D., Texas A&M University
 Bee, Danny, 1995, Assistant Professor, M.S., UW-Madison
 Bjornerud, James, 1964, Professor, Ph.D., University of Minnesota
 Brenholt, David, 1980, Assistant Professor, M.S., UW-Stout
 Bui, Tuat V., 1992, Associate Programmer Analyst, Associate, Northwestern Electronics Institute
 Chiodo, Robert L., Senior Lecturer and Senior Information Processing Consultant, Ph.D., Nova
 Southeastern
 Collier, James A., 1964, Professor, Ed.D., Texas A&M University
 Cooksey, Kay, 1993, Assistant Professor, Ph.D., University of Illinois-Urbana
 DePuy, George N., 1991, Professor, Provost and Vice Chancellor, Ph.D., Syracuse University
 Dumas, Andrew, 1994, Lecturer, B.F.A., UW-Stout
 Feirn, Robert, 1993, Assistant Professor, M.S., UW-Stout
 Fransway, Roger, 1995, Associate Lecturer
 Gehring, Glenn, 1965, Professor, Ed.D., University of Illinois
 Heimdahl, Peter, 1992, Professor and Associate Dean, Ph.D., University of Illinois
 Johnson Jr, Jerome E., 1985, Associate Professor, Ed.D., University of Minnesota
 McMillian, Robert, 1995, Lecturer, B.S., UW-Stout
 Meyer, Robert M., 1981, Associate Professor and Program Director, B.S. Degree in Manufacturing
 Engineering, Ph.D., University of Minnesota
 Moegenburg, Louis A., 1967, Professor, Ed.D., Texas A&M University
 Neuburg, Kenneth E., 1992, Lecturer and Program Director, B.S. Degree in Packaging, B.S., UW-Stout
 Nystuen, Courtney W., 1967, Assistant Professor, M.S., UW-Stout
 Olson, Don E., 1982, Professor, Ph.D., University of Minnesota
 Peltier, George S., 1966, Assistant Professor, Ed.S., UW-Stout
 Peterson, David, 1989, Lecturer
 Pope, David, 1990, Associate Information Processing Consultant, B.S., UW-Stout
 Roiter, Jerry, 1995, Associate Professor, Ph.D., Michigan State University
 Rothaupt, Richard, 1995, Associate Professor, Ph.D., Colorado State University
 Rude, R. Daniel, 1995, Lecturer, B.S., UW-Platteville
 Rueth Jr, William, 1993, Assistant Professor, Ph.D., Marquette University
 Schafer, Marion, 1995, Assistant Professor, M.S., Indiana State University
 Spencer, E. Mitchell, 1986, Assistant Professor, M.A., Virginia Polytechnic University
 Stradins, Lindards, 1996, Assistant Professor, M.S., UW-Madison
 Timper, Hans, 1967, Professor and Program Director, B.S. Degree in Construction, Ed.D., Utah State
 University
 Vomela, Richard A., 1986, Professor, Ph.D., University of Minnesota
 Vranak, John C., 1979, Professor, Ed.D., University of Minnesota
 Zhou, Norman D., 1988, Associate Professor, Ph.D., University of Minnesota

Center for Vocational, Technical and Adult Education

- Nelson, Orville W., 1963, Professor, Director and Program Director, M.S. Degree in Vocational
 Education, and Ed.S. Degree in Industrial and Vocational Education, Ph.D., University of
 Minnesota
 Baldus, A. Lorayne, 1962, Associate Researcher, M.S., UW-Stout
 Riley, Linda, 1990, Associate Researcher, M.S., UW-Superior

Stout Technology Transfer Institute

- Schneider, Larry A., 1978, Director and Assistant to the Dean, M.S., UW-Stout
 Berkemer, Kirsten, 1989, Senior Research Specialist, B.S., Ohio State University
 Jennejohn, Nancy L., 1993, Outreach Program Manager, B.S., UW-Stout
 Katuri, B. Naidu, 1987, Director of Northwest Wisconsin Manufacturing Outreach Center, M.S., UW-
 Stout
 Knouse, Troy A., 1994, Associate Management Engineer, B.S., UW-Stout
 Slattery, Joseph, 1991, Associate Management Engineer, M.S., UW-Stout
 Thomas, Henry L., 1968, Senior Management Engineer, Ed.D., Colorado State College
 Zimmer, Ellen, 1994, Associate Management Engineer, M.S., UW-Stout

Student Affairs

- Larkin, Joseph M., 1966, Professor and Dean of Students, Ed.D., Oklahoma State University
 Abraham, Robin, 1995, Adviser, M.S., UW-Milwaukee
 Bay, Michael Scott, 1989, Student Services Coordinator, M.S., UW-Oshkosh
 Burdick, Barbara A., 1980, Development Skills Specialist, M.S., UW-Stout
 Cseter, Andrew Joseph, 1988, Student Services Coordinator, M.S., UW-Stout
 Ebel, Allen R., 1986, Student Services Program Manager and Alcohol and Other Drug Abuse Coordinator, M.S., UW-Stout
 Edwards, Diane N., 1987, Associate Information Manager, B.S., UW-Stout
 Frey, Celene, 1981, Assistant Director, B.S., UW-Stout
 Gerasimo, Andrea, 1994, Adviser, B.A., Augsburg College
 Hall, R. Pinckney, 1969, Professor, Counselor and Director of University Counseling Center, Ph.D., Northwestern University
 Hay, Sheryl, 1995, Associate Rehabilitation Specialist, B.S., Emporia State University
 Hoyt, Robert L., 1967, Professor and Counselor, Ph.D., Northwestern University
 Henderson, Jane Ellen, 1983, Student Services Coordinator, B.S., UW-Stout
 Hughes, Joan S., 1976, Director of Student Records
 Iverson, Diane J. Gabriel, 1981, Director of Student Support Services, Ph.D., University of St. Thomas
 Jenkins, Cynthia S., 1977, Director, M.S., UW-Stout
 Kell, Charles, 1969, Assistant Professor and Registrar, M.S., UW-Stout
 Lowery, Cheryl, 1975, Student Services Coordinator, M.S., UW-Stout
 Lowery, Richard D., 1968, Instructor, and Associate Director, M.S.Ed., Southern Illinois University
 Meinen, LaMont D., 1988, Director of Placement and Co-op Services, Ph.D., University of Minnesota
 Murphy, Shirley, 1985, Senior Student Services Coordinator, Ed.D., University of St. Thomas
 Nelson, Rebecca, 1991, Student Services Specialist
 Riordan, Mary A., 1980, Student Services Program Manager, M.E.P.D., UW-Stout
 Rivera, Raymond A., 1981, Student Services Program Manager, B.S., Mount Senario College
 Schwartz, Mary K., 1993, Student Services Specialist
 Shefchik, Debra, 1990, Adviser and Student Services Coordinator, M.S., UW-Stout
 Slinden, Howard J., 1974, Co-op Education Coordinator, M.A., Michigan State University-East Lansing
 Spear, Gary L., 1989, Student Services Coordinator, Ed.S., UW-Stout
 Thomas, Joan D., 1989, Student Services Specialist, B.S., UW-Stout
 Tuchel, Barbara, 1995, Adviser, B.A., UW-Stout
 Vang, Stephen P., 1992, Associate Adviser, M.A., UW-Madison
 Wilson, Christine, 1995, Adviser, B.S., UW-Stout

Physical Education and Athletics

- Terry, Steven P., 1980, Associate Professor, Department Chair and Director, Ph.D., New Mexico State University
 Benson, Ted, 1993, Athletic Trainer, M.S.E., University of Minnesota
 Hall, Chris, 1992, Coach, M.S., UW-La Crosse
 Harmon, Christopher, 1994, Coach
 Jolliff, Jill, 1993, Lecturer and Coach, M.Ed., Bowling Green State University
 Meierkort Jr, Edwin J., 1993, Coach, M.S., South Dakota State University
 Muraski, John A., 1989, Coach, M.A., University of Evansville
 Naatz, Duane, 1990, Coach, M.S., University of North Dakota
 Petrie, Terry F., 1970, Assistant Professor, M.S., Mankato State College
 Petruccelli, Lisa, 1995, Coach, M.A., University of Maryland
 Pierce, Stennet B., 1965, Lecturer, M.S., UW-La Crosse
 Pitt, Layne, 1994, Sports Information Director, B.S., UW-Stout
 Raymond, Cynthia J., 1992, Coach, B.S., South Dakota State University
 Raymond, Kelly, 1992, Coach, B.S., Valley City State University
 Slinden, Rita E., 1971, Assistant Professor, M.S., Mankato State College
 Strasheim, Curtis, 1993, Student Services Coordinator, M.S., South Dakota State University
 Thomas, Mark R., 1986, Coach, M.S., UW-Stout
 Thomas, Robert, 1988, Coach, M.S., Winona State University
 Weigel, Carla, 1995, Coach, B.S., Tulane University
 Zavada-Knaack, Susan, 1993, Associate Lecturer
 Zuerlein, John, 1966, Associate Professor, M.S., UW-Stout

Administrative and Student Life Services

- Womack, Jan George, 1989, Vice Chancellor, Ph.D., University of Oklahoma
 Taylor, Annette M., 1980, Assistant to Vice Chancellor, M.M.A., Metropolitan State
 Albrecht, Helmuth, 1963, Associate Professor and Executive Director of Auxiliary Services, B.S., UW-Stout
 Anda-Bowen, Lori, 1991, Recreation Specialist, B.S., University of Dubuque
 Argo, James W., 1985, Director of Human Resources, B.A., University of Missouri-St. Louis
 Birkholz, Deborah J., 1992, Associate Administrative Program Specialist, B.S., UW-Stout
 Bjornerud, Gloria, 1975, Senior Institutional Planner, M.S., UW-Stout
 Boots, Charlene J., 1992, Associate Budget Planner, B.S., UW-Stout
 Brown, Joseph R., 1970, Assistant Director, B.A., UW-Stout
 Burns, Wendy, 1995, Associate Residence Hall Manager
 Button, Barbara, 1985, Information Processing Consultant, B.S., UW-Stout
 Carlson, Suzanne, 1995, Director, of Financial Aid, M.Tx., Portland State University
 Cowles, Gary, 1975, Administrative Program Manager and Agency Printing Manager, B.S., UW-Stout
 Cragin, Laura, 1992, Student Health Nurse, M.S., University of Minnesota
 Decker, Joann R., 1988, Student Health Nurse, B.S.N., UW-Eau Claire
 Drier, Gerald R., 1988, Associate Director of Physical Plant, B.S., UW-Madison
 Duncanson, Jerry L., 1983, Facilities Planning Specialist, B.S., UW-Stout
 Enger, Christine M., 1978, Administrative Program Manager, B.S., UW-Stout
 Fritz, Martin, 1981, Student Services Program Manager, B.S., Emporia Kansas State College
 Fullarton, Kathleen R., 1988, Administrative Program Manager, B.S., Iowa State University
 Fuller, Jon H., 1979, Director, Facilities Management, B.S., UW-Stout
 Gomke, Monte A., 1988, Residence Hall Manager, B.S., North Dakota State University
 Green, Kathleen E., 1989, Student Health Nurse, B.S., Creighton University
 Griffiths, Jane E., 1973, Bursar
 Grote, Henry F., 1992, Administrative Program Manager, M.S., UW-Eau Claire
 Hable, Heidi, 1991, Residence Hall Manager, B.S., UW-Stout
 Hendzel, Theodore S., 1991, Director, Physical Plant, M.S., Illinois Institute of Technology
 Jablonsky, Russ, 1992, Residence Hall Manager, B.S., Moorhead State University
 Johnson, Jaralee, 1994, Residence Hall Manager, M.A., University of Iowa
 Johnson, Robert A., 1969, Assistant Professor and Director of Memorial Student Center, M.S., UW-Stout
 Jones, Gordon G., 1965, Professor and Director of Computer Education and User Services, Ph.D., Washington State University
 Kaun, David H., 1975, Director of Telecommunications and Networking, M.S., UW-Stout
 Krier, Joseph L., 1976, Student Services Program Manager, M.E.P.D., UW-Stout
 Lawrence-Ramaeker, Janice, 1986, Director, of Student Health Service, B.S., UW-La Crosse
 Lund, Karen E., 1987, Marketing Specialist
 MacDougall, Wendy, 1994, Student Health Nurse, P.N.P., College of St. Catherine
 Madson, Margaret Ann, 1989, Administrative Program Specialist, M.B.A., UW-Eau Claire
 Mars, Marilyn, 1969, Assistant Director of Purchasing
 McBriarty, Kimberly, 1995, Residence Hall Manager, M.Ed., Loyola University
 McIntyre, Betty, 1990, Information Processing Consultant, M.S., UW-Milwaukee
 McManus, Mary M., 1990, Student Services Coordinator, M.S., UW-La Crosse
 Metcalf, Jane E., 1986, Residence Hall Manager, B.S., UW-Stout
 Moeder, Brenda, 1992, Residence Hall Manager, B.S., Kansas State University
 Moen, Diane M., 1978, Director of Business and Financial Services, M.B.A., UW-Eau Claire
 Nicolai, Lucy A., 1983, Student Services Coordinator, B.S., UW-Stout
 Ninas, Nancy J., 1984, Information Manager, B.S., UW-Stout
 Prescott, Thomas E., 1977, Senior Information Processing Consultant, M.S., UW-Stout
 Ramage, F. Anne, 1971, Associate Professor, M.A., St. Louis University
 Reinagle, Patti, 1990, Residence Hall Manager, B.S., Northern Michigan University
 Resech, Beth, 1980, Assistant Director, Financial Aid, B.S., UW-Stout
 Sankey, Dean A., 1982, Administrative Program Manager and Director of Safety, Risk Management and Hazardous Waste, M.S., UW-Stout
 Schleifer, Philip J., 1985, Senior Physician, M.D., Marquette University School of Medicine
 Shaw, Dennis L., 1993, Director of Security and Police Services, B.B.A., UW-Whitewater
 Siedlecki, Robert W., 1970, Associate Director, Memorial Student Center, B.A., UW-Eau Claire
 Sirovatka, Stephanie, 1993, Student Services Specialist, M.S.E., UW-La Crosse
 Skutley, Mark, 1986, Director of Purchasing, M.B.A., UW-Eau Claire
 Spain, Judy E., 1967, Instructor and Director of Residence Life, M.A., State College of Iowa
 Stelter, Steven, 1993, Director of Information and Operating Systems, M.S., UW-La Crosse
 Thies, Ann F., 1982, Director of Food Service, B.S., UW-Stout
 Varsho, Nancy J., 1992, Student Health Nurse
 Wahl, Douglas J., 1989, Senior Information Processing Consultant, B.S., UW-Stout
 Wavrunek, Joel B., 1991, Residence Hall Manager, B.S., UW-Stout

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Academic/Administrative Facilities

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| 3. Administration | 15. Library Learning Center |
| 4. Harvey Hall | 16. Human Environmental Sciences |
| 5. Bowman Hall | 17. Education and Human Services |
| 6. University Services | 18. Memorial Student Center |
| 7. Communication Center | 19. Merle M. Price Commons |
| 8. Ray Hall | 20. Jarvis Hall—Technology and Science |
| 9. Communication Technologies | 21. Micheels Hall |
| 10. Fryklund Hall | 22. Applied Arts |
| 11. Child and Family Study Center | 23. Johnson Fieldhouse |
| 12. Heating Plant | 24. Health and Physical Education |
| | 25. Burton E. Nelson Field |

Residence Halls

- | | |
|---------------------------------|--|
| A. Wigen Hall | F. Antrim-Froggatt Halls |
| B. Hovlid Hall | G. Curran-Kranzusch-Tustison-Oetting Halls |
| C. Fleming Hall | H. South Hall |
| D. Jeter-Tainter-Callahan Halls | I. Hansen-Keith-Milnes-Chinnock Halls |
| E. North Hall | |

Parking

During hours of enforcement, all non-metered campus parking requires display of a permit. Permits are available from the Parking Office in the University Services Building (6), 817 S. Broadway, Phone: 715/232-1792.

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|-------------------------------------|---------------------------------------|
| Orange: Meter Paid Parking | Blue: Resident Students, North Campus |
| Purple: Reserved, Faculty and Staff | White: Resident Students |
| Red: Commuter, Faculty, Staff and | Yellow Triangle: Motorcycle Parking |
| Yellow: Students | Brown: Reserved Parking |

Parking Regulation

Permit Lots and Meters

Permit enforced: 7 a.m. – 4 p.m.; M-F
Meters enforced: 7 a.m. - 4:30 p.m.; M-F

Resident Student Lots (Blue and Yellow)

Enforced 24 hrs/day;
5 p.m. Sunday – 1 p.m. Friday

Disabled, No Parking areas, loading, yellow zones:

Enforced 24 hours daily

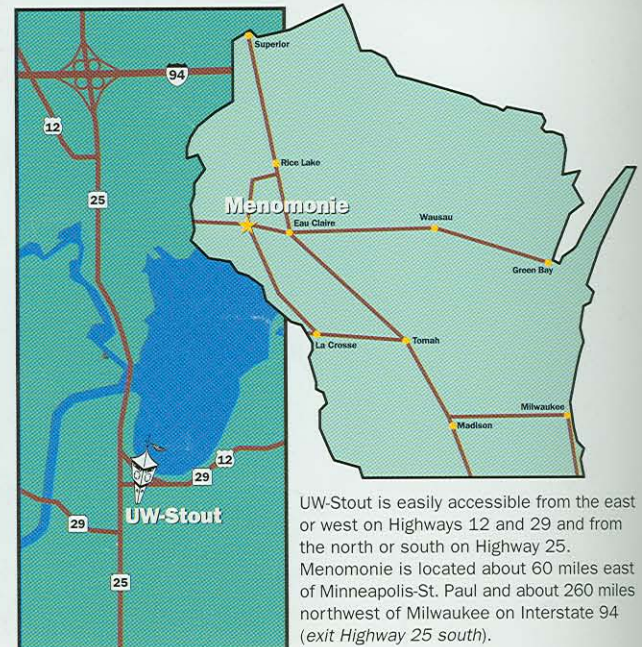
Free Public Parking:

All campus lots are open to the public during those times when permit and meter enforcement is not in effect, and parking is not prohibited.

Accessibility Symbols

- | | |
|-------------------------------------|--------------------------------------|
| Red line: Slope/Ramp | Handicap symbol: Handicapped Parking |
| Dashed red line: Steep Incline | M symbol: Metered Parking |
| Yellow circle: Accessible Entrances | Red square: Curbs |
| Red circle: Electric Doors | Checkered square: Walkway |

Getting to UW-Stout



UW-Stout is easily accessible from the east or west on Highways 12 and 29 and from the north or south on Highway 25. Menomonie is located about 60 miles east of Minneapolis-St. Paul and about 260 miles northwest of Milwaukee on Interstate 94 (exit Highway 25 south).